INSTALLATION, OPERATING AND MAINTENANCE MANUAL

NECTA

Astro

Espresso
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NECTA
VENDING SOLUTIONS SpA
A company of
N&W GLOBAL VENDING GROUP

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DICHIARAZIONE DI CONFORMITA'

DECLARATION OF CONFORMITY

DÉCLARATION DE CONFORMITÉ

KONFORMITÄTSERKLÄRUNG

DECLARACIÓN DE CONFORMIDAD

DECLARAÇÃO DE CONFORMIDADE

VERKLARING VAN OVEREENSTEMMING

INTYG OM ÖVERENSSTÄMMELSE

OVERENSSTEMMELSESERKLÆRING

YHDENMUKAISUUSTODISTUS

Valbrembo, 03/05/2001

Dichiara che la macchina descritta nella targhetta di identificazione, è conforme alle disposizioni legislative delle direttive: **89/392**, **89/336**, **73/23 CEE** e successive modifiche ed integrazioni.

Declares that the machine described in the identification plate conforms to the legislative directions of the directives: **89/392**, **89/336**, **73/23 EEC** and further amendments and integrations.

Déclare que l'appareil décrit dans la plaque signalétique satisfait aux prescriptions des directives: **89/392**, **89/336**, **73/23 CEE** et modifications/intégrations suivantes.

Erklärt, daß das im Typenschild beschriebene Gerät den **EWG** Richtlinien **89/392**,
89/336, **73/23** sowie den folgenden Änderungen/Ergänzungen entspricht.

Declara que la máquina descripta en la placa de identificación, resulta conforme a las disposiciones legislativas de las directivas: **89/392**, **89/336**, **73/23 CEE** y modificaciones y integraciones sucesivas.

Declara que o distribuidor descrita na chapa de identificação é conforme às disposições legislativas das directivas **CEE 89/392, 89/336 e 73/23** e sucessivas modificações e integrações.

Verklaart dat de op de identificatieplaat beschreven machine overeenstemt met de bepalingen van de **EEG** richtlijnen **89/392, 89/336** en **73/23** en de daaropvolgende wijzigingen en aanvullingen.

Intygar att maskinen som beskrivs på identifieringsskylten överensstämmer med lagstiftningsföreskrifterna i direktiven: **89/392**, **89/336**, **73/23 CEE** och påföljande och kompletteringar.

Det erklæres herved, at automaten angivet på typeskiltet er i overensstemmelse med direktiverne **89/392, 89/336** og **73/23 EU** og de senere ændringer og tillæg.

Forsikrer under eget ansvar at apparatet som beskrives i identifikasjonsplaten, er i overensstemmelse med vilkårene i EU-direktivene **89/392, 89/336, 73/23** med endringer.

Vahvistaa, että arvokyltissä kuvattu laite vastaa **EU**-direktiivien **89/392**, **89/336**, **73/23** sekä niihin myöhemmin tehtyjen muutosten määräyksiä.

ANTONIO CAVO

C.E.O

THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and
CISQ/IMQ-CSQ
hereby certify that the organization

NECTA VENDING SOLUTIONS S.p.A.
Via Roma, 24 – I-24030 VALBREMBO (BG)

for the following field of activities
Design, manufacturing and sale of
electronical/electromechanical vending machines
has implemented and maintains a
Quality Management System
which fulfills the requirements of the following standard

ISO 9001

Issued on: 2000 - 03 – 31

Registration Number: IT - 12979

Catherine Neville
President of IQNet

Gianrenzo Prati
President of CISQ

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CISQ

a member of IQNet

CISQ è una Federazione
sovrasettoriale ed indipendente
di enti di certificazione dei Sistemi di
Gestione aziendali, operanti ciascuno
nei settori di propria competenza.

*CISQ is a multi-sector, independent,
non-profit Federation of Italian
organizations for the certification
of company management systems,
each operating in its own sector
of responsibility.*

CERTIFICAZIONE ITALIANA DEI SISTEMI QUALITÀ AZIENDALI
ITALIAN CERTIFICATION OF COMPANY QUALITY SYSTEMS

CSQ

CERTIFICATO n.
CERTIFICATE n. **9130.ZAVE**

SI CERTIFICA CHE IL SISTEMA QUALITÀ DI
WE HEREBY CERTIFY THAT THE QUALITY SYSTEM OPERATED BY

NECTA VENDING SOLUTIONS S.p.A.

UNITÀ OPERATIVE
OPERATIVE UNITS

Via Roma, 24 – 24030 VALBREMBO (BG)

È CONFORME ALLA NORMA
IS IN COMPLIANCE WITH THE STANDARD **UNI EN ISO 9001**

PER LE SEGUENTI ATTIVITÀ
CONCERNING THE FOLLOWING ACTIVITIES

Progettazione, produzione e commercializzazione di
apparecchiature elettromeccaniche/elettroniche per la
distribuzione automatica e la ristorazione
*Design, manufacturing and sale of
electronical/electromechanical vending machines*

IL PRESENTE CERTIFICATO È SOGGETTO AL RISPETTO DEL REGOLAMENTO
PER LA CERTIFICAZIONE DEI SISTEMI QUALITÀ DELLE AZIENDE
*THE USE AND THE VALIDITY OF THE CERTIFICATE SHALL SATISFY THE REQUIREMENTS
OF THE RULES FOR THE CERTIFICATION OF COMPANY QUALITY SYSTEMS*

Prima emissione
First issue 1 Giugno 1994

Emissione corrente
Current issue 31 Marzo 2000

IMQ - VIA QUINTILIANO, 43 - 20138 MILANO

SINCERT

EA: 19

La validità del presente certificato è subordinata a sorveglianza annuale e al riesame completo del Sistema di Qualità con periodicità triennale secondo le procedure dell'IMQ S.p.A.
The validity of the certificate is submitted to annual audit and a reassessment of the entire Quality System within three years according to IMQ S.p.A. rules

TABLE OF CONTENTS

INTRODUCTION

This technical documentation is part and parcel of the vending machine and must always follow the machine in case it is moved or transfer of ownership, so as to allow consultation by different operators.

Before starting installation and using the machine, it is first necessary to carefully read and understand the instructions contained in this manual, as they offer important information on installation safety, operating instructions and maintenance.

This manual is divided into three chapters.

The **first chapter** describes the loading and routine maintenance operations which are carried out in areas of the machine accessible with simple use of the door key, without using any other tools.
The **second chapter** contains the instructions for correct installation and all information necessary for optimum use of the machine.
The **third chapter** describes maintenance operations which involve the use of tools to access potentially dangerous areas.

The operations described in the second and third sections must be carried out only by personnel who have the specific knowledge of the machine functioning from a point of view of electrical safety and health regulations.

IDENTIFICATION OF THE VENDING MACHINE AND ITS CHARACTERISTICS

Every machine is identified by its own serial number, indicated on the rating plate attached inside the cabinet on the right side.
This plate is the only one acknowledged by the manufacturer as the identification of the apparatus, and carries all the data which readily and safely give technical information supplied by the manufacturer. It also assists in the spare parts management.

IN CASE OF FAILURE

In most cases, any technical problems are corrected by small repair operations; however, before contacting the manufacturer we recommend that this manual be read carefully.
Should there be failures or malfunctions that cannot be solved, then contact:

NECTA VENDING SOLUTIONS SpA
Via Roma 24
24030 Valbrembo
Italy - Tel. +39 035606111

TRANSPORT AND STORAGE

To prevent any damage, special care should be taken when loading or unloading the vending machine.
The machine can be lifted by a motor-driven or manual fork lift truck, and the forks are to be placed underneath the machine from the side clearly indicated by the symbol on the cardboard package.

Do not:

- overturn the vending machine;
- drag the vending machine with ropes or similar;
- lift the vending machine by its sides;
- lift the vending machine with slings or ropes;
- shake or jolt the vending machine and its packing.

The machine should be stored in a dry room where the temperature remains between 0°C and 40°C.
Avoid stacking machines one on top of the other and always keep it upright as indicated by the arrows on the packing.

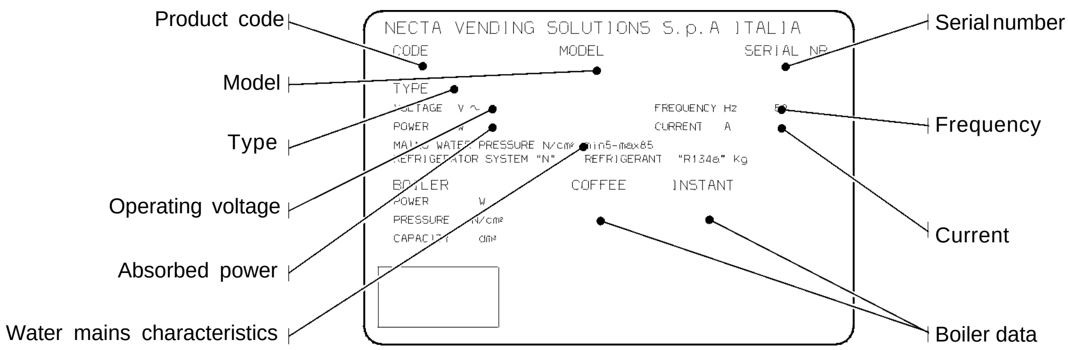


Fig. 1

POSITIONING THE VENDING MACHINE

The vending machine is not suitable for outdoor installation. It must be installed in a dry room where the temperature is between 2°C and 32°C, and not where water jets are used for cleaning (e.g. in large kitchens, etc.).
The machine should be placed close to a wall, so that the back panel is at a minimum distance of 4 cm from it and correct ventilation may be ensured.
The machine must never be covered with cloth or the like.
The machine should be positioned with a maximum inclination of 2°.
If necessary provide proper levelling by way of the adjustable feet included (see Figure 12).

WARNING FOR INSTALLATION

The machine installation and the following maintenance operations should be carried out by qualified personnel only, who are trained in the correct use of the machine according to the standards in force.

The machine is sold without payment system, therefore the installer of such a system has sole responsibility for any damage to the machine or to things and persons caused by faulty installation.

The integrity of the vending machine and its conformity with the rules and regulations in force for its relevant systems must be checked by qualified personnel at least once a year.

All packing materials shall be disposed of in a manner which is safe for the environment.

PRECAUTIONS IN USING THE MACHINE

The following precautions will assist in protecting the environment:

- use biodegradable products only to clean the machine;
- adequately dispose of all containers of the products used for loading and cleaning the machine;
- switch the machine off during periods of inactivity, thus achieving considerable energy savings.

WARNING FOR SCRAPPING

Whenever the machine is to be scrapped, the laws in force regarding environment protection should be strictly observed. More specifically:

- ferrous and plastic materials and the like are to be disposed of in authorized areas only;
- insulating materials should be recovered by qualified companies.

TECHNICAL SPECIFICATIONS

Height	1830	mm
Width	650	mm
Depth	760	mm
Overall depth with door open	1320	mm
Weight		Kg

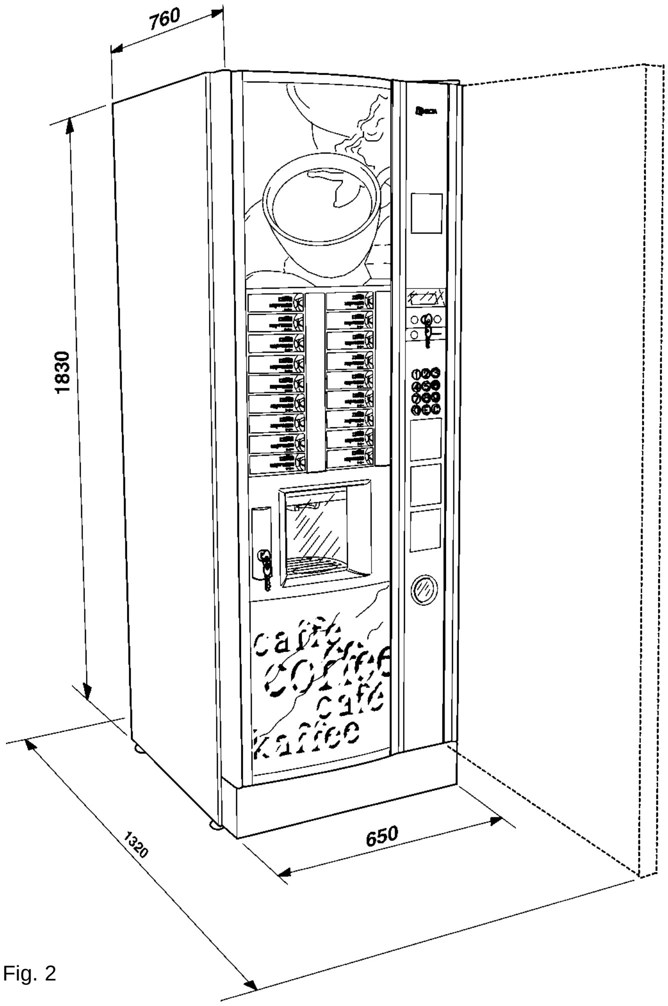


Fig. 2

Power supply voltage	230	V~
Frequency	50	Hz
Installed power	2400	W

CUP DISPENSER

Suitable for cups with a rim diameter of 70-71 mm. with a capacity of approximately 900 cups;

PAYMENT SYSTEM

The machine is supplied with all electrical prearrangement for systems with Executive, BDV and MDB protocol, as well as for installation of 24 V validators.
Beside the coin mechanism housing, suitable space is provided for the installation (optional) of the most widely used payment systems.

SALES PRICES

A different programmable price can be set for each selection.
The standard setting has the same sales price for all selections.

COIN BOX

Made of aluminized plate.
Cover and lock are available as accessories.

WATER SUPPLY

From the mains, with a pressure of 5 to 85 N/cm^2.
The machine software is pre-set to control the water supply from an internal tank (optional kit).

AVAILABLE ADJUSTMENTS

Espresso: volumetric adjustment for coffee, grade of grinding, instant products and water doses.
Instant: time adjustment for coffee, instant products and water doses.

Temperature

Adjustable via software.

CONTROLS

- Presence of cups
- Presence of water
- Presence of coffee
- Coffee unit in position
- Liquid waste container empty
- Operating temperature reached
- Position of mobile dispensing spouts

SAFETY DEVICES

- Door switch
- Manual-reset boiler safety thermostats
- Air-break float jamming
- Overflow solenoid valve
- Float for full liquid waste container
- Boiler sensor short-circuit/failure control
- Timer protection for:
    - Pump
    - Coffee unit ratiomotor
    - Coffee dispensing
    - Coffee grinder
    - Cup column shift motor
- Overheating protection for:
    - Doser units
    - Coffee unit ratiomotor
    - Coffee release magnets
    - Pump
    - Electric mixers
    - Coffee grinder motor
- Fuse protection for:
    - Board power supply transformer and
    - Coin mechanism (primary and secondary)

CAPACITY OF CONTAINERS

Coffee beans	3.2	Kg.
Stirrers	N.	550 Approx.
cups	N.	600 Approx.

For instant products, according to the models, 3.5 or 11 litre containers or two-compartment containers can be used.
The product quantity is indicated in the following table:

Container size (litres)	4.5	11	Compartment 3.5	7
Instant coffee Kg	1.2		0.9	1.8
Milk Kg	1.3	3.2	1.0	2.0
Chocolate Kg	3.1	7.5	2.4	4.8
Sugar Kg	4.2		3.3	6.6
Lemon tea Kg	4.3		3.4	6.8

The effective quantity can vary from what is indicated, depending on the density of the different products.

POWER CONSUMPTION

The machine power consumption depends on many factors, such as the temperature and ventilation of the room where it is installed, the inlet water and boiler temperature, etc.
With an ambient temperature of 22 °C the following power consumption levels resulted:

30 drink selections	1.00 l
average drink temperature	78.6° C
Power consumption	
to reach operating temperature	458.8 Wh
24 h of stand-by	3408 Wh
30 selections /hour	265.5 Wh

The above power consumption calculated from average data should only be taken as an indication.

VARIABLE COMBINATION LOCK

Some machine models are fitted with a variable combination lock.
The lock is supplied with two silver colour keys to be used for normal opening and closing.
The lock can be customised by using a kit, available as accessory, which permits changing of the lock combination.
This kit includes a change key (black) for the current lock combination as well as change (gold) and use (silver) keys for the new combination.
Sets of change and use keys with other combinations can be supplied on request.
Additional sets of use keys (silver) may be requested, indicating the combination stamped on the keys.
Generally, only the use key (silver) is used, while the combination change keys (gold) can be kept as spares.

Do not use the change key for normal opening, as it may damage the lock.

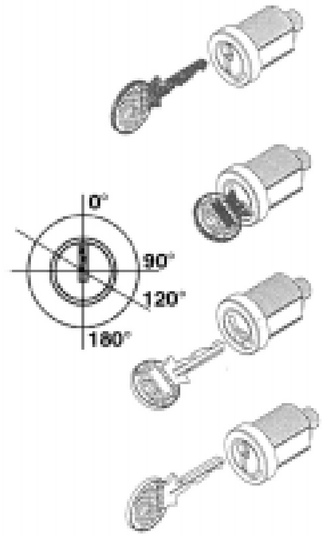
To change combination do as follows:

- insert the current change key (black) and rotate to the change position (reference notch at 120°);
- remove the current change key and insert the change key (gold) with the new combination;
- rotate to the close position (0°) and remove the change key.

The lock will now have the new combination.

Keys with the old combination cannot be used for the new combination.

Fig. 3



ACCESSORIES

A wide range of accessories can be installed on the machine to change its performance:
The various kits are supplied with their own installation instructions, which must be strictly observed to ensure the machine's safety.

Installation and the following testing operations, must be carried out only by qualified personnel who have the specific knowledge of the machine functioning from a point of view of both electrical safety and health regulations.

Chapter 1
LOADING AND CLEANING

DOOR SWITCH

When opening the door a special switch disconnects the power from the machine electrical system to allow the operations described below, regarding loading and routine cleaning, in full safety.

All operations requiring the machine to be energized with the door opened must be carried out EXCLUSIVELY by qualified personnel informed about the specific risks of such situation.

MAINTENANCE AND DISINFECTION

According to current safety and health rules and regulations, the operator of an automatic vending machine is responsible for the hygiene of materials that come in contact with foodstuff; therefore he must carry out maintenance on the machine to prevent the formation of bacteria.

At installation the hydraulic circuits and the parts in contact with foodstuff should be fully sanitised to remove any bacteria which might have formed during storage.

It is advisable that specific sanitising agents (such as chlorine-based detergents or similar) are used for cleaning also the surfaces which are not directly in contact with foodstuff.

Some parts of the machine can be damaged by strong detergents.

The manufacturer declines all responsibility for any damage resulting from failure to comply with the above or from using strong or toxic chemical products.

Before starting any maintenance operations requiring parts of the unit to be removed, the machine must always be switched off.

USING THE VENDING MACHINES OF HOT DRINKS IN OPEN CONTAINERS

(Ex.: plastic cups, ceramic cups, jugs)

The vending machines of drinks in open containers should be used only to sell and dispense drinks obtained by:

- brewing products like coffee and tea;
- reconstituting instant and lyophilized products;

These products should be declared by the manufacturer as "suitable for automatic vending" in open containers.

The dispensed products should be consumed immediately. They should never be preserved and/or packed for later consumption.

Any other use is unsuitable and thus potentially dangerous.

CONTROLS AND INFORMATION

The machine operating condition must be between a temperature of 2 to 32°C.

All user controls and information are conveniently located on the external side of the door (see Figure 5).

The labels with the selection menu and instructions, supplied with the machine, must be inserted at the time of installation.

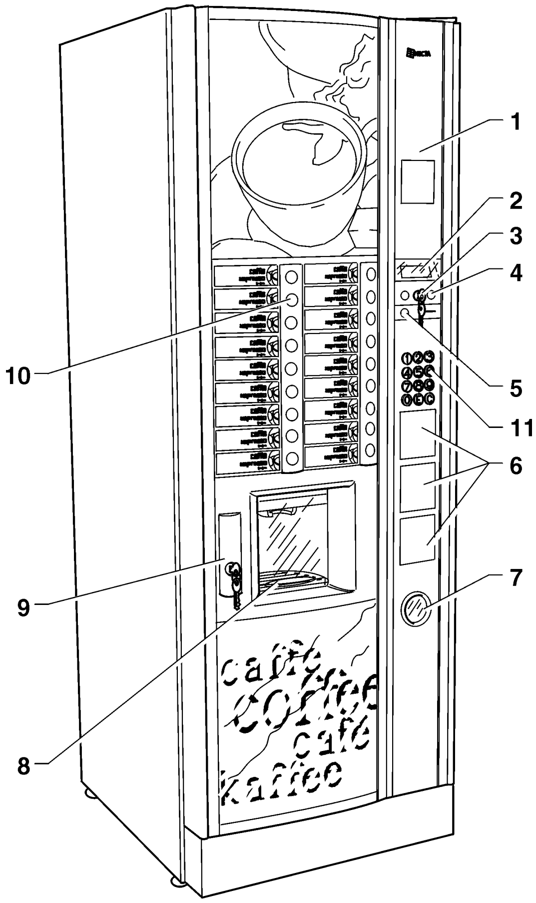


Fig. 4

1 - Space for payment systems
2 - Alphameric display (4x20)
3 - Jug facilities-free vend key
4 - Sugar dose selection
5 - Coin slot-return
6 - Operating instructions labels
7 - Coin return flap
8 - Dispensing compartment
9 - Lock
10 - Direct selection buttons as alternative to (11)
11 - Numeric buttons as alternative to (10)

The Programming button, to access the machine functions, and the mixer cleaning button are located iside the machine, on the right-hand side of the coin mechanism compartment.

NOISE LEVEL

The continuous, weighted equivalent acoustic pressure level is below 70 dB.

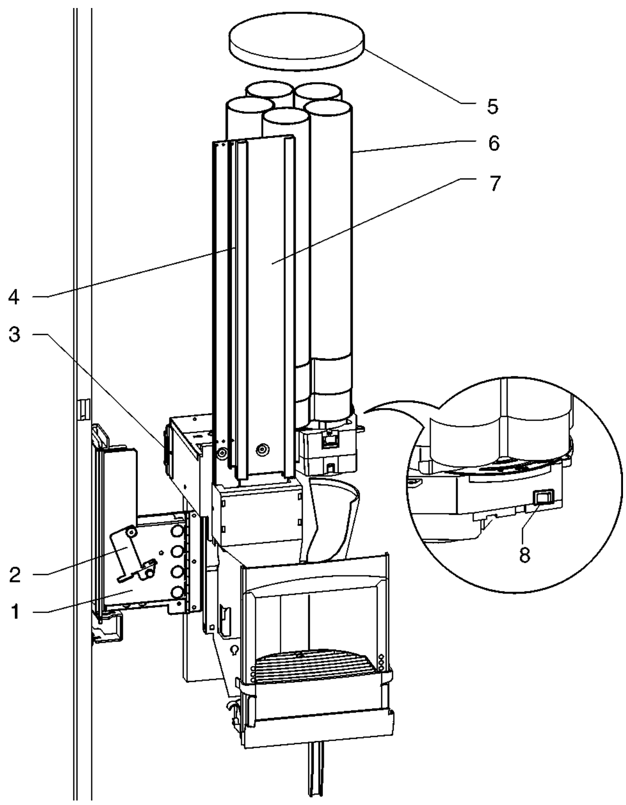
LOADING CUPS

When loading cups for the first time (i.e. with the cup dispenser completely empty) do as follows:

- disconnect the electricity from the machine;
- rotate the shelf outwards, forcing the resistance of the securing magnet;
- remove the cover of the cup container;
- fill the columns with cups, except the one aligned with the dispensing opening;
- switch the machine on and the full column will be positioned automatically over the dispensing opening;
- fill the empty column;
- release one or more cups with the special button and replace the cover.

The cup dispenser shelf has a double swivel that improves acees to the cup dispenser, especially when the machine is installed in a bank of machines.

Fig. 5

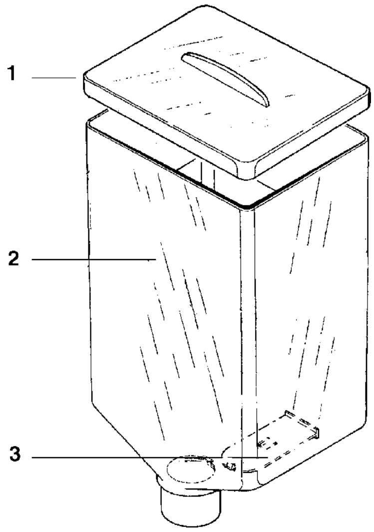


1 - Swivel shelf
2 - Swivel release lever
3 - Shelf positioning magnet
4 - Adjustable stirrer guide
5 - Cover
6 - Cup stacker
7 - Stirrer stacker
8 - Cup release button

LOADING COFFEE

Lift the cover and fill the hopper with coffee, ensuring that the shutter is fully open (see Fig. 6).

Fig. 6



1 - Cover
2 - Coffee hopper
3 - Shutter

LOADING SUGAR AND INSTANT PRODUCTS

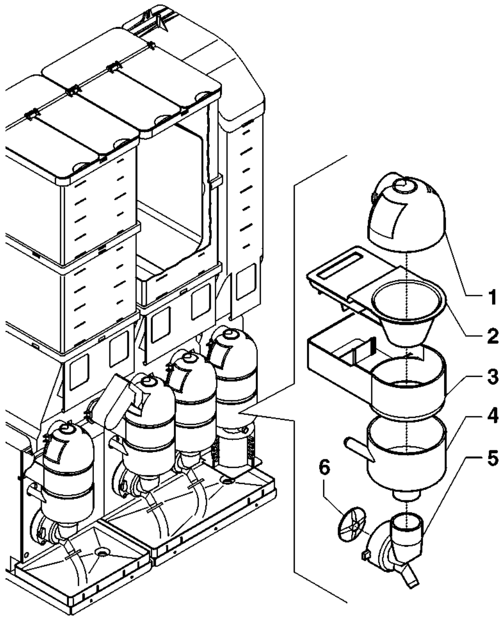
A self-adhesive label indicating the product is attached on each container.
After lifting their cover, fill the single containers with the appropriate products, taking care not to compress them to prevent packing. Make sure the products do not contain any clots.

SANITISING THE FOODSTUFF CIRCUITS AND THE MIXERS

When installing the unit, and then at least once a week or even more frequently according to the use of the machine and the quality of the inlet water, the mixers and the dispensing conduits must be thoroughly sanitised (cleaned and disinfected), to guarantee proper hygiene of the dispensed products.
The parts to be cleaned are as follows:

- powder deposit drawers, mixer and instant drink dispensing conduit;
- tubes and dispensing spouts;
- cup chute;
- dispensing compartment;
- remove the covers, the powder and the water funnels, the feeders, the powder deposit drawers and the mixer wheels from the mixers (see Figure 7);

Fig. 7



1 - Powder feeder
2 - Powder funnel
3 - Powder deposit drawer
4 - Water funnel
5 - Mixer feeder
6 - Mixer rotor

- in order to remove the wheels, block the disk fitted on the mixer shaft with a finger;
- wash all parts with detergent being sure that all visible residue (following the dose recommended by the manufacturer), and product layers are mechanically removed, using a brush if necessary;

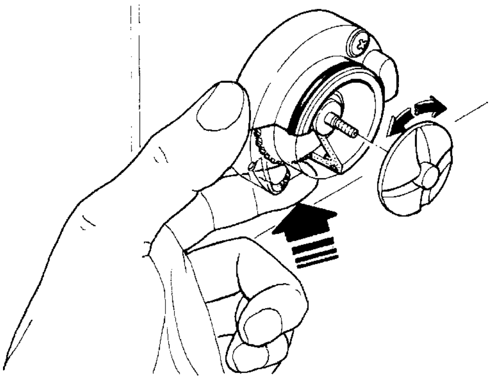
Disinfection should be carried out using chlorine-based detergents;

- soak all components for approx. 20 minutes in a container filled with the previously prepared chlorine-based detergent;
- reinstall the feeders and the water funnels;
- reinstall the powder deposit drawers and the powder funnels after thoroughly rinsing and drying them.

After reinstalling all parts the following is however required:

- enter into "Filler menu" mode to clean the mixers (see relevant paragraph) and add a few drops of the chlorine-based detergent in the various funnels.
- After disinfection thoroughly rinse all components to ensure that all residue of the detergent solution is removed.

Fig. 8



CLEANING THE SUGAR DISPENSER

For models with sugar dispensed directly into the cup, the sugar dispensing system must be cleaned periodically using hot water (see figure 9) proceeding as follows:

- release the return spring;
- lift the flexible lever to free the pin;
- remove the pin and the dispensing spout;
- thoroughly rinse and dry;
- after cleaning, reinstall all parts in the reverse order.

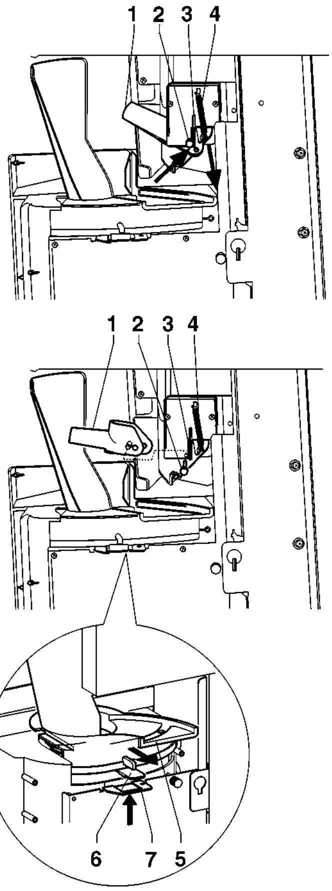


Fig. 9

1 - Sugar dispensing spout
2 - Pin
3 - Flexible lever
4 - Return spring
5 - Cup chute
6 - Cup chute release lever
7 - Chute positioning catch

WEEKLY CLEANING OF THE COFFEE UNIT

Every time coffee is refilled, or at least once a week, any powder residue should be removed from the external parts of the coffee unit, particularly from the coffee funnel.

REGENERATING THE SOFTENER UNIT

The ion-exchange resins, contained in the softener unit, should be regenerated at least once a week or even more frequently depending on the hardness of the water from the mains used to supply the machine (see table below).

Water hardness		N. of selections	
° F.	° G.	60 cc.	130 cc.
10	5.6	25,000	12,500
20	11.2	12,500	6,000
25	14	11,000	5,250
30	16.8	9,400	4,500
40	22.4	6,300	3,000
50	28.0	5,500	2,500

To regenerate the resins correctly do as follows:

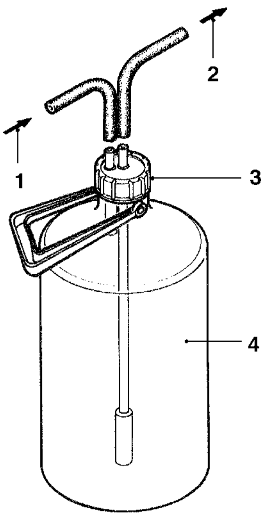
- remove the softener unit from the cabinet and shake it vigorously to eliminate any preferential paths which may have formed;
- fill 1.5 Kg. of sodium chloride (ordinary salt);
- connect the side hose union to a tap and the middle rubber-holder to a drain point; the direction of the water flow must

ABSOLUTELY

be the one shown in figure 10

- adjust the water flow in such a way as to completely dissolve the salt in 20 litres water within 35 minutes;

Fig. 10



1 - From the tap
2 - To the drain
3 - Cap
4 - Softener unit

- during the regeneration operation, ensure that the softener unit is always full of water, bleeding any air which may have entered;
- at the end of this operation ensure that outlet water is no longer salted; it is advisable to check the hardness of the water by means of appropriate chemical reagents.

SUSPENDING FROM USE

If for any reason the machine is switched off for a period exceeding the use-by date of the products, the following will be necessary:

- completely empty the containers and thoroughly wash them with the chlorine-based detergents used to clean the mixers.
- completely empty the dosing grinder by dispensing coffee until the empty condition is indicated.
- completely empty the air-break and the instant product boiler, loosening the clamp on the hose.

Chapter 2
INSTALLATION

Installation and the following maintenance operations should be carried out with the **machine switched on** and therefore by qualified personnel only, who are trained in the correct use of the machine and informed about the specific risks of such situation.

The machine should be installed in a dry room where the temperature remains between 2° C and 32° C.

At installation the hydraulic circuits and the parts in contact with foodstuff should be fully sanitised to remove any bacteria which might have formed during storage.

DOOR SWITCH

When opening the door a special microswitch disconnects the power from the machine electrical system.
To energize the system with the open door, simply insert the special key into the slot (see Fig. 11).

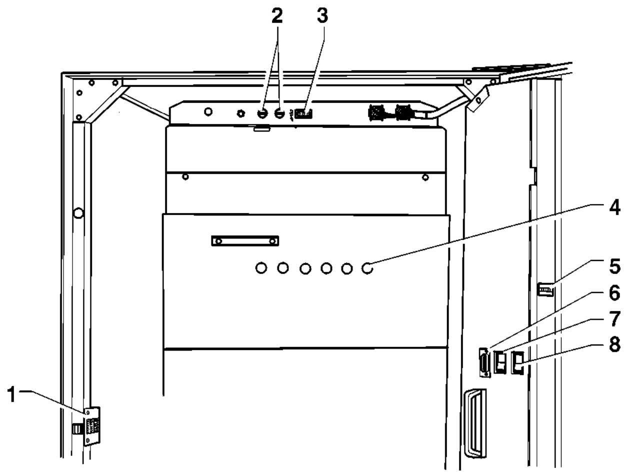
With the door open there is no access to energised parts. Inside the machine, the only parts that stay energised are those protected by covers and carrying a plate with the warning "Disconnect the power before removing the protective cover".

Before removing such covers disconnect the machine from the power grid.

The door can be closed only after removing the key from the door switch and lowering the machine top panel.

Fig. 11

1 - Door switch
2 - Mains fuses
3 - Permanently live socket (230 V~ 2 A Max)
4 - Instant valves
5 - Mechanical counter
6 - RS232 serial port
7 - Mixer wash button
8 - Programming button



UNPACKING THE VENDING MACHINE

After removing the packing, check that the machine is not damaged.
If in doubt do not use the machine.

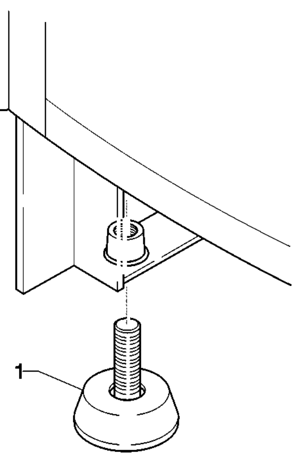
No packing elements (i.e. plastic bags, polystyrene foam, nails, etc.) should be left within the reach of children, as they are potentially dangerous.

Packing materials must be disposed of in authorized areas only, and all recyclable materials must be recovered by specialised companies.

Important notice!!

The machine should be positioned with a maximum inclination of 2°.
If necessary provide proper levelling by way of the adjustable feet included (see Figure 12).

Fig. 12
1 - Adjustable foot

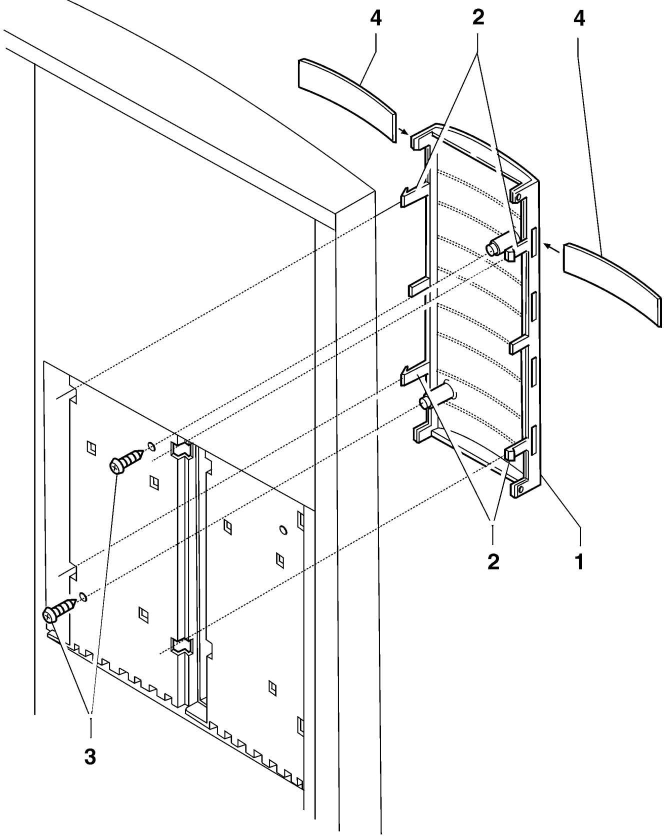


INSERTING THE PRODUCT LABELS

The labels indicating the available selections are supplied with the machine and must be inserted into the special slots at the time of installation, after removing the cover.
According to the model, some buttons may not be used (refer to the selection dose table).

Fig. 13

1 - Label support
2 - Clamping tangs
3 - Fastening screws
4 - Product labels



CONNECTING THE MACHINE TO THE WATER MAINS

The machine must be connected to the drinking water mains, taking into account law provisions in force in the country where the machine is installed.
The water pressure must be 5 to 85 N/cm^{2}..
Run some water from the mains until it is clear and without impurities.
Use a hose capable of withstanding the water mains pressure and suitable for use with foodstuff (min. inside diameter of 6 mm) to connect the water supply to the fitting (3/4" gas) of the water inlet solenoid valve (see Figure 14).

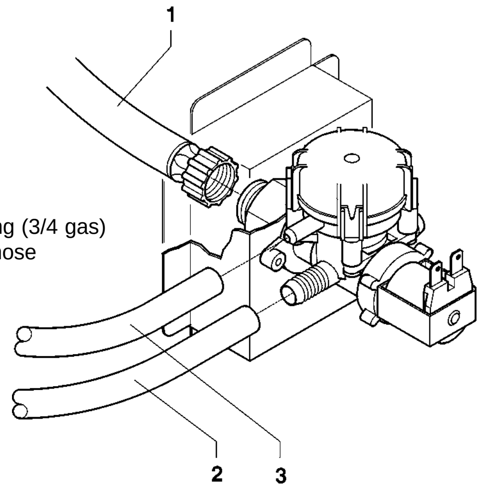


Fig. 14

1 - Water inlet fitting (3/4 gas)
2 - Water supply hose
3 - Overflow hose

It is good practice to install the water supply tap outside the machine in an easily accessible position.

OVERFLOW DEVICE

The water inlet solenoid valve (see Fig. 14) is equipped with an overflow device which mechanically stops the water inlet if there is a malfunction in the solenoid valve or in the boiler water level control device.
To restore normal operation, proceed as follows:
- disconnect the power from the machine;
- drain the water contained in the overflow hose;
- shut off the water supply using the tap outside the machine;
- loosen the nut which secures the solenoid valve supply hose to relieve the water mains residual pressure and then tighten again (see Fig.14);
- open the tap and switch the machine on.

CONNECTING TO THE POWER SUPPLY

The vending machine is designed to operate under a single-phase 230 V~ voltage and is protected by 15 A fuses.
Before making the connection, ensure that the rating corresponds to that of the power grid, and more specifically:
- the supply voltage rating must be within the range recommended for the connection points;
- the main switch should be capable of withstanding the peak load required, and at the same time ensure proper omnipolar disconnection from the power grid with an opening gap of the contacts of at least 3 mm.

The switch, the power outlet and the plug must be located in an easily accessible position.

The electrical safety of the machine is ensured only when it is correctly earthed according to the safety standards in force.

This fundamental safety requirement must be duly verified, and if in doubt the system must be carefully tested by qualified technicians.

The power supply cable is of the type with a fixed plug. Any replacement should be carried out by qualified personnel only, using exclusively cables of the type HO5 RN - F or HO5 V V-F or H07 RN-F with a section of 3x1-1.5 mm^{2}.

Do not use adapters, multiple sockets and/or extensions.

THE MANUFACTURER DECLINES ALL RESPONSIBILITY FOR ANY DAMAGE CAUSED BY NON-COMPLIANCE WITH THE ABOVE MENTIONED PRECAUTIONS.

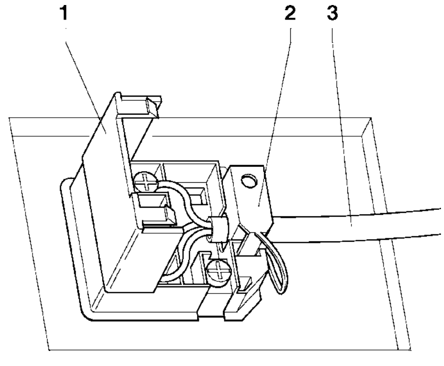


Fig. 15

1 - Lift cover
2 - Cable clamp
3 - Cable from the mains

INSTALLING THE PAYMENT SYSTEM

The machine is sold without payment system, therefore the installer of such a system is responsible for any damage to the machine or to things and persons caused by faulty installation.

- Install the desired coin mechanism according to the appropriate instructions and make sure that the relevant parameters are programmed correctly.
- adjust the selector opening lever bracket to allow complete opening of the selector;
- adjust the coin chute according to the type of coin mechanism installed.

CLEANING THE SOFTENER RESINS (MODELS C ONLY)

Before filling the machine water system the resins contained in the softener unit must be cleaned, operating as follows:

- remove the hose connected to the air-break from the softener unit fitting (see Fig.16);
- insert a new hose, provided with the machine, onto the now free hose fitting and direct it towards a drain;
- switch the machine on;
- bleed air out of the softener unit by loosening the plug, wait until it is full of water and tighten the plug, let a few litres of water flow out until it is clear;
- re-insert the hose connected to the air-break.

FILLING THE WATER SYSTEM

If the air-break device indicates the no-water condition for more than 10 seconds after the machine has been switched on, an installation cycle will automatically be started, and namely:

- the display will show

"INSTALLATION"

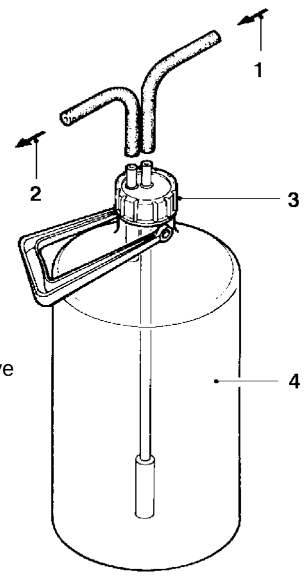
for the entire duration of the cycle;

- the air-break and the instant product boiler are filled;
- (for espresso models only) the coffee solenoid valve is opened so that air may be bled from the boiler and 800 cc. of water filled.

N.B.: If there is no water flow from the mains during the installation cycle, the machine will be blocked until the water is resumed or the machine is switched off.

This operation must be carried out by hand, using the special function from the "test" menu in "Technician" mode, if the **kit (optional) for water supply from an internal tank** is fitted or after any maintenance requiring the boiler to be emptied but not the air-break.

Fig. 16



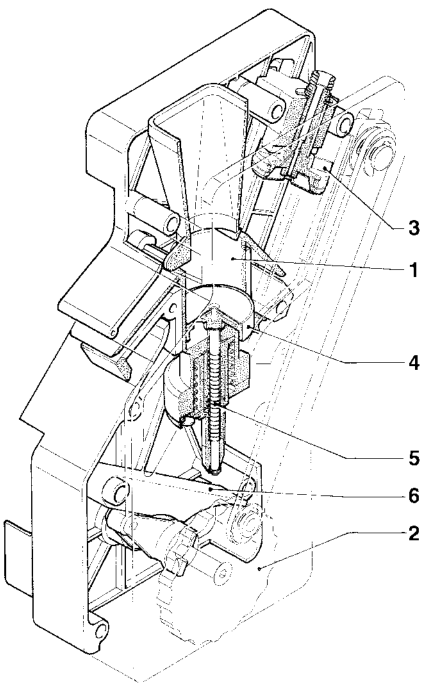
1 - From the water inlet solenoid valve
2 - To the air-break
3 - Cap
4 - Softener unit

COFFEE UNIT OPERATION

COFFEE DISPENSING CYCLE

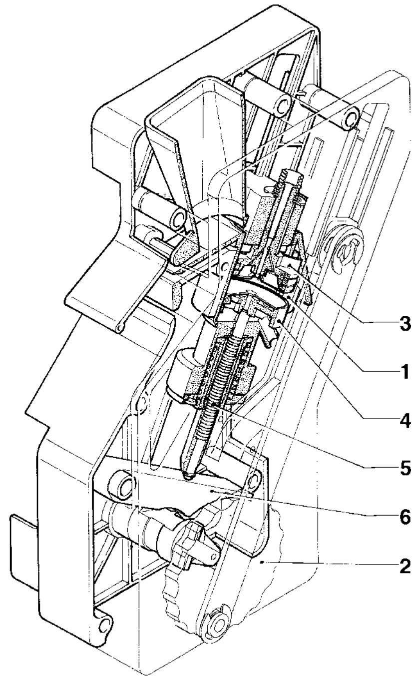
When selecting coffee, the grinder is started and will continue until the coffee doser chamber is full (see Figure 17).
When the doser unit is full, the ground coffee dose is released into the coffee unit.
The coffee falls into the vertical brewing chamber (1) (see Fig. 18).
The ratiomotor handle engaged with the disk (2) located outside of the unit rotates by 180°, making the brewing chamber swing and lowering the upper piston (3) (see Fig. 18).
Due to the water pressure, the pre-brewing spring (5) sinks and the lower piston (4) goes down 4 mm, thus forming a water cushion which allows an even use of the coffee dose.
At the end of the dispensing cycle and during a pause of 3 seconds, the pre-brewing spring (5) will discharge the water through the third way of the dispensing solenoid valve, lightly pressing the used coffee dose.
By completing its rotation, the ratiomotor makes the swinging lever (6) lift the pistons and the coffee dose.
At the same time, when the brewing chamber returns to its vertical position, the scraper on the coffee hopper stops the used coffee dose and drops it.
The lower piston now returns to the bottom dead centre.

Fig. 17



1 - Brewing chamber
2 - External disk
3 - Upper piston
4 - Lower piston
5 - Pre-brewing spring
6 - Swinging lever

Fig .18



1 - Brewing chamber
2 - External disk
3 - Upper piston
4 - Lower piston
5 - Pre-brewing spring
6 - Swinging lever

CHECKING AND ADJUSTING THE MACHINE SETTINGS

To get the best results from the product used, the following should be checked:

For coffee

That the used coffee dose is lightly compressed and damp.

The grade of grinding of ground coffee.

The dose weight of ground coffee.

The dispensing temperature.

The water dose.

For instant products

The dose weight of the instant products.

The drink temperature.

The water dose.

Should the standard settings need to be changed, proceed as indicated in the next sections of this manual.

The weight of instant products, the water dose and temperature are directly controlled by the microprocessor.
To adjust them it is therefore necessary to follow the programming procedures.

STANDARD SETTINGS

The vending machine is supplied with the following settings:

- coffee temperature (at the spout) approx. 85-89°C;
- instant product temperature (at the spout) approx. 75°C;

The machine standard settings assign the same price, expressed in number of basic coins, to all selections.

ADJUSTING THE BREWING CHAMBER VOLUME

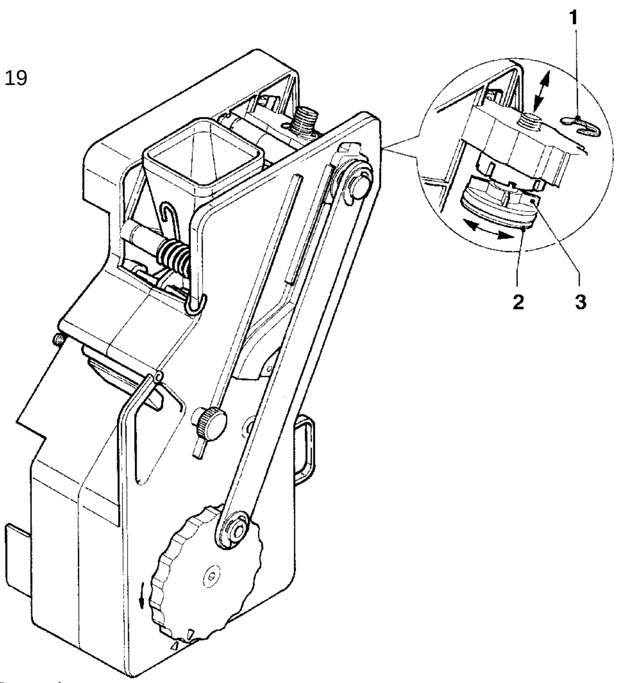
When the upper piston is correctly positioned, the coffee unit can operate with coffee doses of 5.5 to 8.5 g.
To change the piston position (see Fig. 19) do as follows:

- remove the snap ring from its seat;
- place the piston in the proper adjusting notches:

  .less deep notches for 5.5 to 7.5 g doses;

  .deeper notches for 6.5 to 8.5 g doses.

Fig. 19



1 - Snap ring
2 - Upper piston
3 - Reference fins

ADJUSTING THE GRINDER

When a variation in the grade of grinding is desired, turn the relevant adjusting knob on the grinder (see Fig. 20) and more specifically:

- turn the knob anticlockwise for coarser grinding;
- turn the knob clockwise for finer grinding.

For optimum results, it is good practice to vary the grade of grinding with the coffee grinder motor running.

N.B.: After adjustment of the grade of grinding, at least 2 test selections must be performed in order to check the new granulometry of the ground coffee:

the finer the grade of grinding the longer the time necessary for dispensing the coffee and vice versa.

ADJUSTING THE COFFEE DOSE

The dose adjusting lever can be positioned in one of the 6 reference notches bearing in mind that:

- the dose is increased by lifting the lever:
- the dose is reduced by lowering the lever:
- every notch changes the dose by approx. 0.25 g.

In addition, when the lever is fully rotated upwards, the ratchet can be released from the groove in the dose regulator (see Fig.20) and replaced into a different groove to change the average dose setting to:

- low	6 g ± 0,5
- medium	7 g ± 0,5
- high	8 g ± 0,5

To take the dose it will be sufficient to remove the coffee unit and use the special function from the "test" menu in "Technician" mode (see relevant paragraph).

Important notice!!!

To refit the coffee unit, pay special attention to the piston position. Reference notches on the external disk and on the unit case should match (see Fig. 23).

ADJUSTING THE WATER TEMPERATURE

The boiler temperature is controlled by the software and can be adjusted directly from the menu.

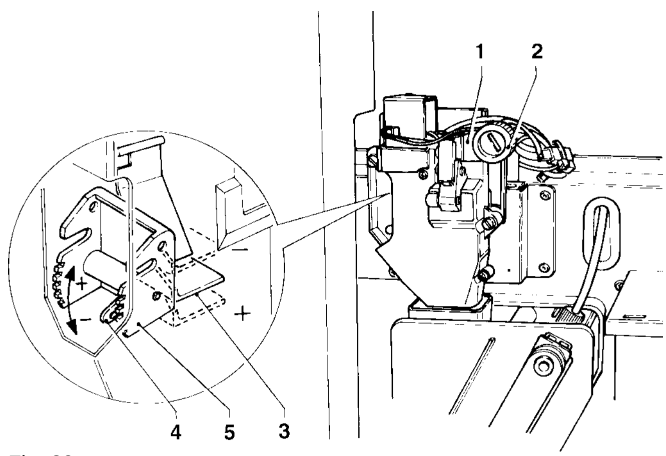


Fig. 20

1 - Coffee grinder
2 - Grinding adjusting knob
3 - Dose regulator
4 - Dose adjusting lever
5 - Reference notches

OPERATING MODES

Three different operating modes are provided for the machine; the buttons will have different functions according to the machine operating mode.
The available operating modes are as follows:

	FUNCTIONS
Normal mode	coins accepted products dispensed
Filler menu	test dispensing machine maintenance
Technician menu	programming different parameters

USER INTERFACE

The interaction between system and user occurs through the following components:

- Liquid crystal display (LCD) 4 lines of 20 characters.
- Pulsantiera esterna a selezione diretta o, in alternativa, con i tasti numerici che, in modalità "Caricatore" e "Tecnico", assumono le seguenti funzioni (vedi fig. 21):

Scrolling keys “↓” and “↑” :

To move to the next or previous menu option.

Confirm key “↳”:

To go from a menu to a sub-menu, or to confirm the information on the display.

Exit key “←”:

To move back from a sub-menu to the higher level menu, or used to cancel the current information on the display.
It is also used to go from “technician menu” mode to “filler menu” mode and vice versa.

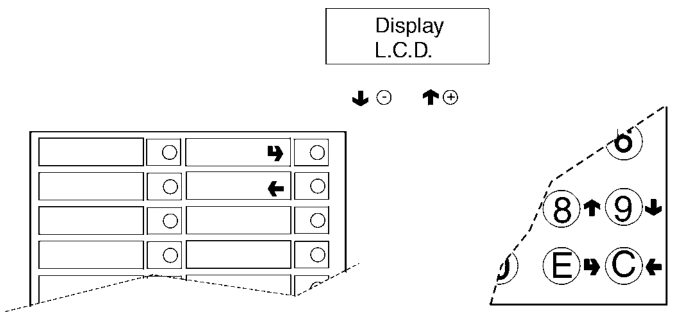


Fig. 21

NORMAL OPERATING MODE

When switching the machine on, the message “Starting” is displayed for a few seconds, after which the machine goes into normal operating mode.
The displayed massages indicating the operation being carried out are fixed, while the instructions requiring an action from the user are blinking; the messages include the following:

DISPLAY	FUNCTION
Select drink Press key	Machine ready
Vending machine out of service	Machine out of service
Selected drink essed Wait please	Processing the proc- drink
Drink ready Take drink	Dispensing ended correctly

FILLER MENU

When pressing once the programming button located on the coin mechanism compartment, the machine goes into “Filler menu” mode.
The first option of the “filler” menu is displayed, allowing the following functions:

“Statistics”	Data reading
“Prices”	Changing the price for one selection
“Tube control”	Manual refilling and release of change-giver tubes
“Boiler temperature"	Displaying the boiler temperature in degree C.
“Test”	Complete selection Dispensing water only Dispensing powder only Dispensing without accessories Dispensing accessories only

STATISTICS

Data on the machine operations is stored in both total counters and relative counters, which can be reset without losing total data.

PRINT

Connect an RS232 serial printer having a Baud rate of 9600, 8 data bit, no parity, 1 stop bit to the serial port located on the push button board to print all of the statistics, and namely:

Total

1 - counter by single selection;

2 - counter by time bands;

3 - discount counter;

4 - failure counter;

5 - coin mechanism data.

Relative

1 - counter by single selection;

2 - counter by time bands;

3 - discount counter;

4 - failure counter;

5 - coin mechanism data.

The printout will also contain the machine code, the date and the software version.
To connect the printer, do as follows:

- press the confirm print button "↳", displaying the message "Confirm?";
- connect the printer before confirming;
- press the confirm button "↳" again to start printing.

DISPLAY

When pressing the confirm button "↳" the data described in the paragraph "Printing the statistics" is sequentially displayed.

DELETE STATISTICS

Statistics can be reset for relative counters globally (all types of data) or selectively for:

- selections
- failures
- coin mechanism data

Press the confirm button "↳", and the message "Confirm?" starts blinking.
Press the confirm button "↳", the message "Working" is displayed for a few seconds and all statistics are reset.

SELECTION PRICES

This function is used to change the sales price for each selection and for each time band (if programmed).

CHANGE TUBE CONTROL

By accessing the "Tube control" function the change tubes can be filled or released manually.
Confirm refilling, and the display will indicate "Credit: ——" which is the value of money available in change the tubes; insert the desired coin into the selector and the display will indicate the value of money available in the change tubes.
When confirming releasing, it will be possible to decide which tube to release. Each time the confirm button "↳", is pressed, a coin is ejected from the active tube.

DISPLAYING THE TEMPERATURE

With this function, it is possible to read, directly in °C, the temperature of the coffee boiler and instant boiler.

TEST DISPENSING

For complete or partial dispensing tests each button (or combination of buttons according to the models) is controls its (see the dose selection table).

N.B. For espresso coffee based selections, only the additions are dispensed with the partial dispensing of powder and water; if a selection requires no addition the message "Sel. disabled", indicating a disabled selection, will be displayed.

GSM PRE-ALARMS

The control software can sent a "running-out" signal via GSM modem when a programmed number of pieces or grams of powder for a certain product have been used up.
With this function the counters that control the pre-alarms are reset.

TECHNICIAN MENU

When pressing button "🡐" from “Filler” mode the machine is set to “Technician menu” mode.
The first option of the technician menu is displayed, enabling the following functions:

Failures	Reading present failures Cancel	
Prog.parameters	Cash	Prices Coin mechanisms Immediate change Decimal point
	Selections	Water doses Whippers Powder doses Accessories Selection status Selection button Check selection N.
	Machine parameters	Boiler temperature Wash button Mixer heating N. of maintenance select. Fast cycles Photocell Slider release time
	Display	Language Contrast adjustment
	Pre-selections	No cup Extra sugar Sugar Less sugar More sugar More water Less water More powder Less powder Coffee powder dose Extra milk
	Miscellaneous	FB unit data Jug Facilities Password Enable filler menu

Statistics	Electric counter	Read and delete
	Display	selection counters
	Cancel	Partial Total
	Relative display	selection counters
	Cancel relative	Partial Total
	Display counter at start-up	
	Print	Partial Total
	Relative print	Partial Total
Test	Dispensing	Complete Water only Powder only Without accessories Accessories only
	Special functions	Rotate unit Release coffee Empty boiler Manual install.
Miscellaneous	Machine information Machine codes	installation date machine identification code
	Operator code	operator identification code
	Initialising	

FAILURES

READING PRESENT FAILURES

When the "Failure" function is displayed, press the confirm button "➥" to display the present failures.
If no failures are currently present, after pressing the confirm button "➥" the message "End failures" will be displayed.
The possible failures are indicated in the following cases:

Water failure

If the air-break microswitch is closed for more than one minute, the water inlet solenoid valve will remain energized until the water flow is restored.

Waste container full

This occurs after the liquid waste container float is triggered.

Air-break

The machine is locked if after 7 selections the microswitch has never signalled the lack of water.

No cups

When the empty cup column microswitch opens, the column shift motor is activated. If after one full turn of the cup dispenser the microswitch is not closed the machine locks.

Mobile spouts

If the spouts do not reach the dispensing position, the machine is disabled.

Volumetric counter

Failed computation of the volumetric counter within a max. given time.

Instant boiler

The machine is locked if after 20 minutes of heating time from machine start or from the last selection, the instant boiler fails to reach the operating temperature.

Machine control board

Failed dialogue between C.P.U. board and machine control board.

Coin mechanism

The machine is locked if it receives a pulse longer than 2 seconds on a validator line or the communication with the serial coin mechanism does not take place for more than 30 seconds (Executive protocol) or 75 seconds (BDV protocol).

Coffee release

If after releasing the ground coffee dose the microswitch of the coffee doser unit indicates the presence of coffee in the dosing chamber, all coffee-based selections are disabled.

Espresso unit

This failure is due to a mechanical lock of the unit or when the unit is not present. The machine is not locked, but all coffee-based selections are disabled.

Coffee failure

If after a period of 15 seconds of grinding coffee a dose is not obtained, all coffee-based selections are disabled.

RAM Data

One or more areas of the RAM contain wrong data which was corrected with the default values.
The machine will continue to function, but it would be advisable to initialise as soon as possible.

Espresso boiler

The machine is locked if after 10 minutes of heating time from machine start or from the last selection, the coffee boiler fails to reach the operating temperature.

Cup release

If the cup sensor photocell is fitted, after three unsuccessful cup release attempts the display indicates the message "No cups". Through the specific function it possible to define whether the failure is to lock the machine or leave it for dispensing with a ceramic cup.

Fresh-brew piston 1

Due to wrong positioning of the unit (piston opening time > 8 seconds). The machine is not locked, but all fresh product based selections are disabled.

Fresh-brew scraper 1

Wrong positioning of the waste ejection scraper (movement time > 6 seconds).
The machine is not locked, but all fresh product based selections are disabled.

Fresh-brew piston 2 / Fresh-brew scraper 2

As unit and scraper 1 if the second brewing unit is installed.

RESETTING

By confirming this function all current failures will be reset.

PROGRAMMING PARAMETERS

CASH

This set of functions controls all parameters regarding the payment systems and the sales prices.

SELECTION PRICES

Four different prices can be set for each selection according to the programmed time bands for when the time table option is enabled.
For each of the 4 time bands prices (0 to 65,535) can be programmed globally (same price for all selections) or for the single selections.
Should the majority of products be sold at the same price, it will be convenient to set the price globally and then change the figure of the selections with different prices.

TIME BANDS

Four programmable time bands are provided for selling products at different prices.
The time periods are programmable for beginning and end time by hours (00 to 23) and minutes (00 to 59).
If the values for start and end of the time band are set to 00.00 the time period is disabled.
The reference time is kept by an internal clock, programmable as:
day/month/year week-day 1-7
and then
hour/minutes/seconds.
If the values for start and end of the time band are set to 00.00 the time period is disabled.

COIN MECHANISMS

It is possible to decide which of the payment system protocols available are to be enabled for the functions.
The available payment systems are:

- Executive
- Validators
- BDV
- MDB

By selecting one of the systems it is possible to control its functions.

EXECUTIVE

The following payments systems are available for the Executive system:

- Standard
- Price Holding
- Coges
- U-Key
- Sida

VALIDATORS

When the "Validat. Lines" (line setting) function of the "Technician" menu is displayed, the value of the 6 validator coin lines can be changed.

BDV / MDB

The BDV and MDB protocol menus are relatively similar: The following structure shows the differences.

Type of vending

Setting the operating mode for multiple or single dispensing. With multiple dispensing, the change is not automatically returned after a successful selection, however the credit is available for further selections. When pressing the coin return button, the available credit is returned if its value is lower than the maximum change value.

Credit control

This function enables/disables the return of credit if no selections are made.
If enabled, this function will hold the credit until the first selection has been made. If however a selection fails for any reason, the change will be returned if requested.

Maximum credit

This function is used to define the maximum accepted credit.

Maximum change

It is possible to set a limit to the total amount of change returned by the coin mechanism when pressing the coin return button or after a single dispensing serving.
The value can be 0 to 250 basic coins. Any credit exceeding the amount programmed with this function will be cashed.

Accepted coins

It is possible to define which, among the coins recognised by the validator, are to be accepted.
Check the label on the coin mechanism for the correct coin to value matching, indicating the position of the coins.

Rejected coins (BDV only)

This function programs the rejection of coins when in "exact amount" mode.
Check the label on the coin mechanism for the correct coin to value matching, indicating the position of the coins.

Disabled coin return (MDB only)

This function disables the return of a specific coin.

Dispensing buttons (BDV only)

This function enables or not the buttons on the coin mechanism used to release the coins in the change return tubes.

Value of "exact amount" (BDV only)

This value defines the combination of empty coin tubes, setting the coin mechanism in "exact amount" mode. The possible combinations of empty coin tubes are indicated below. For greater simplicity, the combination is described with reference to tubes A, B and C, where tube A receives the lower value coins and tube C the greater value coins.

0	=	A or (B and C)
1	=	A and B and C
2	=	A and B only
3	=	A and (B or C)
4	=	A only
5	=	A or B only (default)
6	=	A or B or C
7	=	A or B only
8	=	A or C only
9	=	B and C only
10	=	B only
11	=	B or C only
12	=	C only

C.P.C. devices (BDV only)

It dialogues with the coin mechanism if devices are installed or removed from the serial interface (C.P.C.-type devices - the monitoring unit is always enabled by default).

Minimum level of tubes

It brings forward the "Insert exact amount" message for the user, by adding a number of coins between 0 and 15 to the programmed number of coins, to set the "full change tubes" status.

Free Vend (BDV only)

Most payment systems with the BDV protocol control the free vend function.
However, there are some payment systems without such function.
In this case, if free selections are to be dispensed, free vending must be enabled with VMC (vending machine control, disabled by default) and the price of the selections must be set to zero.

COMMON FUNCTIONS

IMMEDIATE CHANGE

Normally, the amount of credit inserted for a selection is cashed after the machine sends the message "Selection successful".
When this function is enabled, disabled by default, the cash message is sent at the beginning of dispensing.

DECIMAL POINT

Press the confirm button "➥" to display the position of the decimal point, i.e.:

0 decimal point disabled

1 XXX.X

2 XX.XX

3 X.XXX

Press the confirm button "➥", these values will start blinking and can then be modified as necessary.

SELECTIONS

The selection menu is composed of various sub-menus which allow setting of the different parameters.

WATER DOSE

The water dose, expressed in cc, can be set for each selection button and therefore each product assigned to it; the display indicates the name of the product being selected.
It is also possible to set the water flow rate of the single solenoid valves expressed in cc/s (the default value setting in cc/s is indicated in the selection dose table) to calculate the amount of water to be dispensed.

WHIPPER CONTROL

The whipping duration can be set for each selection button and therefore for each water dose composing the selection.
The duration can be set in two main modes:

absolute

that is, independently from the solenoid valve opening time. The whipping duration is set in tenths of a second for the instant models and volumetric counter pulses for the Espresso models.

relative

that is, as the difference, more or less, from the moment of closing the solenoid valve.
The whipping duration is always expressed in tenths of a second.

POWDER DOSE

The powder dose, expressed in grams, can be set for each selection button and therefore each product assigned to it; the display indicates the name of the product being selected.
For correct conversion of product dose values, the flow rate of the single dosing units, expressed in g/s, can be set to calculate the amount of powder to be dispensed.
It also possible to program the doses of a product "Globally", i.e. setting all selections with a single operation.

ACCESSORIES

Dispensing of sugar, stirrer and cup can be enabled or disabled for each single selection button.

SELECTION STATUS

Each single selection button can either be enabled or disabled.

BUTTON-SELECTION

This function is used to associate a selection number, indicated in the selection dose table, to a direct selection button.

CHECKING THE SELECTION N.

This function is used to check the selection number (for direct selection models) assigned to a button.

VENDING MACHINE PARAMETERS

TEMPERATURES

This function is used to set the operating temperature, expressed in °C, for the boilers actually installed in the machine.
After selecting the boiler, press the confirm button "➥" , the temperature value starts blinking on the display and can be modified as necessary.

ENABLE WASH BUTTON

This function is used to enable the functioning of the mixer wash button. Normally, the button is disabled.

MIXER HEATING

If the function is enabled and no selections were made during the last 3 minutes through the milk or instant coffee mixers, a small amount of hot water is dispensed before the short coffee, instant milk coffee and espresso milk coffee selections.

FAST CYCLES

When activating this function, some times are eliminates, useful for a better drink quality;

on instant models

- all products that compose a drink are dispensed simultaneously;
- “post whipping” times are eliminated.

on espresso models

- pre-brewing of ground coffee is not carried out;
- the pump, used to increase the boiler pressure after an instant drink selection, is not activated.
- “post whipping” times are eliminated.

SETTING THE REGENERATION COUNTER

It is possible to display the message
“Regenerate the water softener”
upon accessing “filler” mode after a programmable number of drinks dispensed.

CUP SENSOR

The machine can be fitted with a “cup sensor” composed of a photocell that detects the presence of an object in the dispensing compartment.
When this function is activated, if an object is detected in the dispensing compartment, the cup is not released and the display indicates the message “No cup".
It is also possible to define whether, after two cup release attempts without having the photocell detect any objects in the dispensing compartment, the failure is to lock the machine or leave it for dispensing with a ceramic cup.

RETAINED SLIDER

The machine can be fitted with a magnet that keeps the drink dispensing compartment slider lifted for a certain length of time. The time starts from the sound signal at the end of dispensing and can be set to 0 to 15 seconds. In any case the slider is released at the beginning of the next selection.

DISPLAY

LANGUAGE

There is a choice of language, selected among the ones included in the EPROM, to be used for the messages on the display.

LCD CONTRAST ADJUSTMENT

This function is used to adjust the display contrast; 5% minimum to 99% maximum (default).

PRE-SELECTIONS

There is the option of enabling some selection buttons to have dispensing:

- without cup;
- extra sugar, i.e. a greater amount of sugar (programmable) on all selections where it is dispensed;
- sugar, sugar is added to unsweetened selections;
- extra milk, i.e. a greater amount of milk (programmable) on all selections where it is dispensed;

The “-” and “+” buttons can be used to vary the amount of sugar, or alternatively coffee or water.
The LEDs will indicate the average dose change.

- "-" and "+" powder, i.e. varying the amount of product (programmable) for coffee and/or tea.
- "-" and "+" water, i.e. varying the amount of water (adjustable) for coffee selections.

For each pre-selection it is possible to decide whether or not it is to be enabled, which button will be assigned to, the selection price change and the percentage change in product dose.
If the cup sensor is fitted, the slider is retained for a programmable length of time (0 to 30 seconds, 2 by default) from picking up the drink.

MISCELLANEOUS

FRESH-BREW UNIT DATA

For each of the two Fresh-brew units installed in the machine, it is possible to set the brewing time, the drying time for the used dose and whether or not to enable product whipping and automatic cleaning of the brewing unit.

JUG FACILITIES

Some models, supplied with a special button, permit dispensing of a number of selections (programmable between 1 and 9; 5 by default) without cup to fill a jug.

PASSWORD

It is a 5-digit numeric code which is required to access programming.
The default value of this code is set to 00000.

ENABLING THE PASSWORD

This function is used to enable the option of requesting the password to access programming; the password request is disabled by default.

MASKING THE FILLER MENU

This function is used to determine the filler menu options to be left active or to be disabled.
The reference numbers of the menus do not change even if some are disabled.

STATISTICS

Data on the machine operations is stored in both general counters and relative counters, which can be reset without losing total data.

GENERAL COUNTER

An electronic counter collectively stores all selections made since the last reset.

DISPLAYING GENERAL DATA

When pressing the confirm button "↵" he stored data is sequentially displayed at 1 second intervals, and namely:

1 - counter by single selection;

2 - counter by time bands;

3 - discount counter;

4 - failure counter;

5 - coin mechanism data.

RESETTING GENERAL DATA

Statistics can be reset either globally (all types of data) or partially for:
- selections
- discounts/overprice
- failures
- coin mechanism data

Press the confirm button "↵" and the message "Confirm?" starts blinking.
Press the confirm button "↵" , the message "Working" is displayed for a few seconds and all statistics are reset.

DISPLAYING COUNTERS

This function is used to enable/disable the display of the total number of sales since the last statistic reset, during the start-up phase of the machine.

PRINT

Connect an RS232 serial printer having a Baud rate of 9600, 8 data bit, no parity, 1 stop bit to the serial port located on the push button board to print all of the statistics described in the paragraph "statistics display". The printout will also contain the machine code, the date and the software version.
Statistics can be printed partially or totally.
To connect the printer, do as follows:

- press the confirm print button "↵" , displaying the message "Confirm?";
- connect the printer before confirming;
- press the confirm button"↵" again to start printing.

TEST

COMPLETE SELECTION

This function is used to get a complete selection with the door open without inserting any money.

SPECIAL FUNCTIONS

After accessing this function, it is possible to:

- activate the coffee unit;
- grind and release a coffee dose;
- open a solenoid valve to let air in when eptying the boiler for maintenance:

-install the boiler manually.

MISCELLANEOUS

This menu contains some sub-menus, used less frequently, which permit control of the functions described below.

MACHINE INFORMATION

INSTALLATION DATE

This function is used to store the current date of system as installation date.
The date is printed when retrieving the statistics.

PROGRAMMING THE MACHINE CODE

When the “Machine code” function is displayed the eight-digit numeric code identifying the machine can be changed (from the default 0).

PROGRAMMING THE OPERATOR CODE

When the “Operator code” function is displayed the six-digit numeric code identifying groups of machines can be changed (from the default 0).

INITIALISING

When the “Initialise” function is displayed the vending machine can be initialised restoring all default data.
This function should be used if there is a memory data error or when the software is replaced.
All statistic information will be reset.
Press confirm button “➧” to display the message “Confirm?”.
When confirming the options, the message “Working” is displayed for a few seconds.

Chapter 3
MAINTENANCE

The integrity of the machine and compliance with the standards of the relevant systems must be checked at least once a year by qualified personnel.

Before starting any maintenance operations requiring parts of the unit to be removed, the machine must always be switched off.

The operations described below must be carried out only by personnel who have the specific knowledge of the machine functioning from a point of view of electrical safety and health regulations.

INTRODUCTION

To ensure correct operation for a long period, the machine must be subjected to regular maintenance.
The following sections contain the procedures and the maintenance schedule, which are only a general indication, as they greatly depend on the operating conditions (e.g. water hardness, environmental humidity and temperature, type of product used, etc.).
The procedures described in this chapter are not exhaustive of all maintenance operations to be carried out.
More complex operations (e.g. boiler descaling) should be carried out by qualified technicians only having specific knowledge of the machine.
To prevent oxidation or the action of chemical agents, the stainless steel and varnished surfaces should be kept clean by using mild detergents (solvents must not be used).

Never use water jets to clean the machine.

BREWING UNIT MAINTENANCE

Every 10,000 selections or every 6 months some maintenance of the coffee unit must be carried out.
Maintenance is carried out as follows:

- remove the boiler teflon hose connection from the upper piston, paying attention not to lose the seal (see Fig. 22);
- undo the knob securing the unit to the bracket;
- remove the coffee unit.

Removing the upper filter

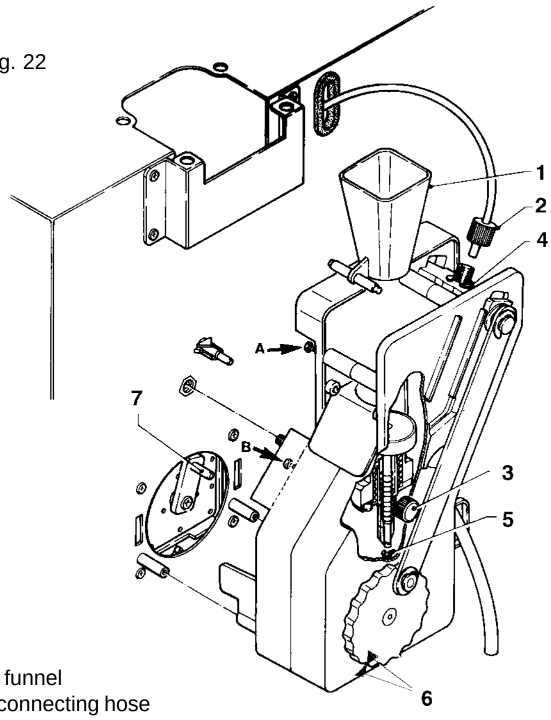
- Take the snap ring out of its seat;
- remove the piston from the crosspiece;
- remove the filter and the piston seal.

Removing the lower filter

- Loosen screws A and B enough to release the coffee funnel (see fig. 22);
- remove the lower piston snap ring;
- take the piston out of brew chamber and remove the filter.

Soak all components removed from the unit in a solution of boiling hot water and coffee machine detergent for approx. 20 minutes.
Thoroughly rinse and dry all parts, then reinstall them in the reverse order of disassembly, taking particular care that:

Fig. 22



1 - Coffee funnel
2 - Boiler connecting hose
3 - Unit securing knob
4 - Upper piston snap ring
5 - Lower piston snap ring
6 - Reference notches
7 - Ratiomotor handle pin

- the piston is positioned in the correct notch for the coffee dose used (see relevant section);
- the two reference notches match and that the coffee unit is inserted.

Important notice!!!

Check that the handle pin of the ratiomotor is correctly engaged in its seat.

CLEANING THE CUP DISPENSER

The cup dispenser is designed to be easily disassembled for maintenance.
Every single column of the cup stacker and the release ring can be disassembled without using any tools.

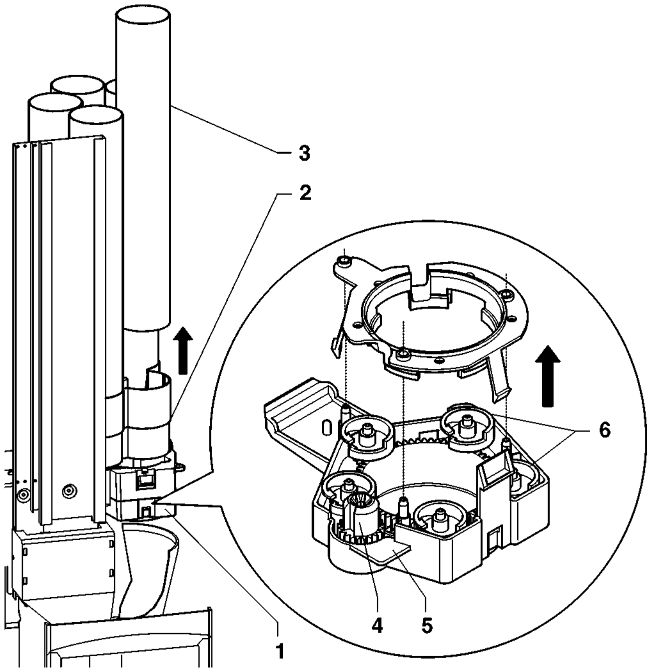
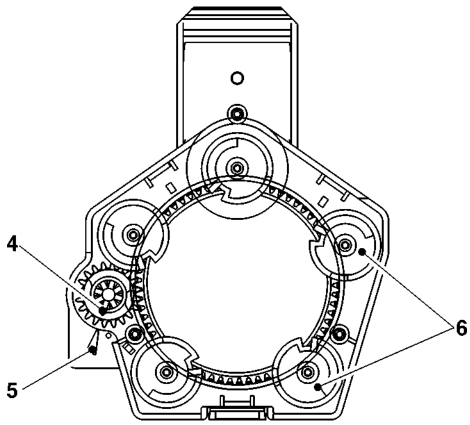


Fig. 23

1 - Cup release ring
2 - Cup stacker
3 - Removable column
4 - Microswitch actuation gear
5 - Snail support
6 - Cup release snails

Fig. 24



The cup release ring must not be opened for normal cleaning.
If adjustments are necessary during re-installation, care must be taken to:

- align the notch on the microswitch actuation gear with the arrow on the snail support;
- ensure that the snails are oriented as indicated in the figure.

ANNUAL SANITISING

At least once a year, or more frequently according to the use of the machine and the quality of the inlet water, the entire foodstuff circuit system must be cleaned and sanitized in the following way:

- all parts of the hydraulic system in contact with food, including the hoses, must be removed from the unit and fully disassembled;
- all visible residue and product films are mechanically removed using brushes or similar tools, if necessary;
- all components must be soaked in a sanitising solution for at least 20 minutes;
- the unit internal surfaces are to be cleaned with the same sanitising solution;
- thoroughly rinse and then reinstall the parts.

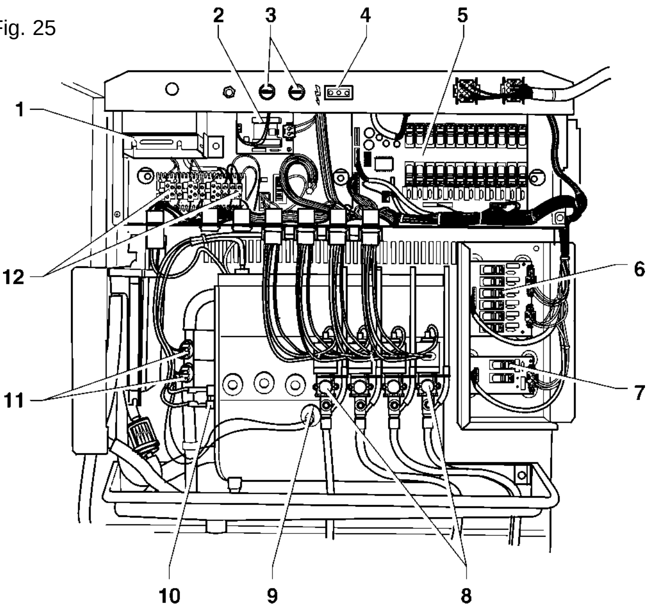
Before restarting the machine, the same sanitising procedure described in section "Sanitising the mixers and the foodstuff circuits" should be repeated.

PRINTED BOARD FUNCTIONS AND INDICATOR LIGHTS

ACTUATION BOARD

This board (see Fig. 25) activates, by means of relays, the 230V~ components of the machine. It controls the signals from the cams and/or microswitches fitted on the various users. It also controls the boiler board and the relay boards.
This board is powered with 24 V AC.

Fig. 25



1 - Transformer
2 - Instant boiler board
3 - Network fuses
4 - Permanently live socket
5 - Actuation board
6 - 6-relay card
7 - 3-relay card
8 - Instant prod. solenoid valves
9 - Boiler temperature probe
10 - Safety thermostat (manual reset)
11 - Anti-boiling thermostats (manual reset)
12 - Transformer fuses

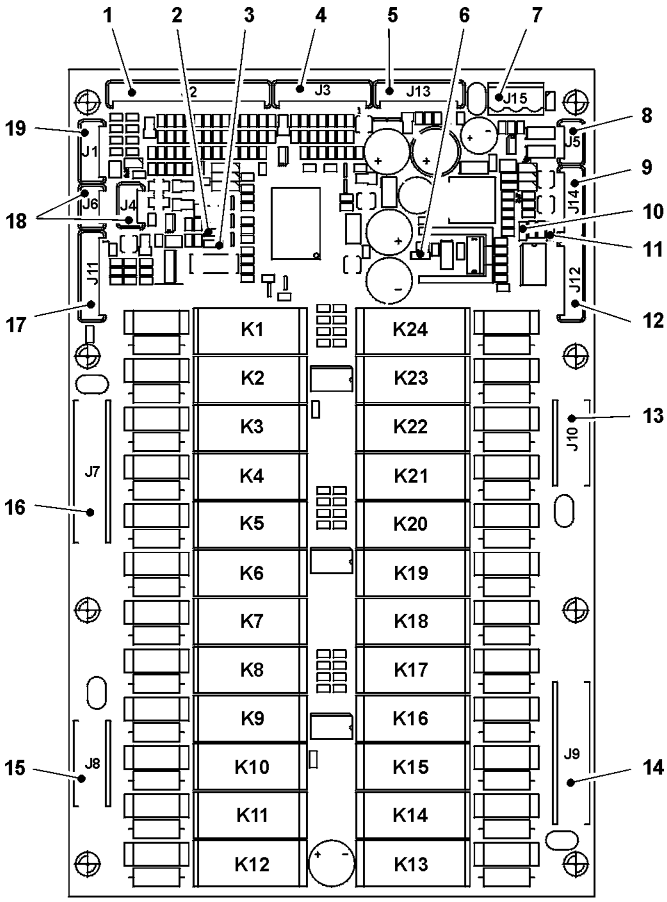
RELAY FUNCTION (see Wiring diagram)

K1	=	EEA		
K2	=	MSB		
K3	=	MSCB		
K4	=	MDZ		
K5	=	MSP		
K6	=	ESC2	VENT	
K7	=	MSU		
K8	=	PM	MF3	
K9	=	MD1		
K10	=	MF1		
K11	=	MD2		
K12	=	MF2		
K13	=	E1		
K14	=	E2		
K15	=	E3		
K16	=	E4		
K17	=	E5		
K18	=	E6		
K19	=	LF		
K20	=	MAC	MD4	MDFB
K21	=	ESC	MD5	MFB
K22	=	ERE	MF5	MPF
K23	=	M	MD3	MDFB
K24	=	MAC2	MF4	MFFB

The board control software is loaded directly onto the microprocessor (through RS232).

- Green LED (2) blinking during the normal operation of the board
- Yellow LED (6) indicating the presence of 5 V DC
- Red LED (3) glowing during the board reset
- Red LED (10) indicating the operating status of the Espresso boiler heating element.

Fig. 26

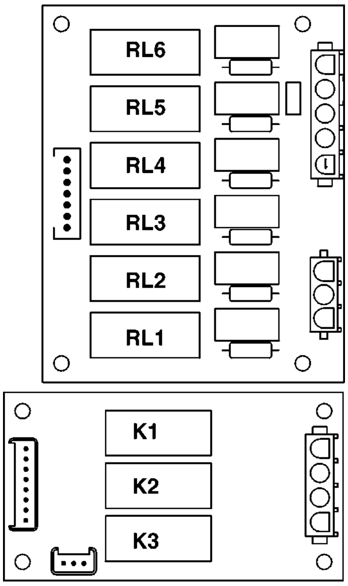


1 - Input signals
2 - Green LED
3 - Red LED
4 - Input signals
5 - Connector for board programming (RS232)
6 - Yellow LED
7 - Board power supply (24 Vac)
8 - Not used
9 - Probe and boiler control
10 - Red LED: Espresso boiler heating element
11 - Red LED: Instant boiler heating element
12 - 6-relay card connection
13 - 230 V~ users
14 - 230 V~ users
15 - 230 V~ users
16 - 230 V~ users
17 - 3-relay card connection
18 - "Can Bus" connection
19 - Not used

RELAY CARD

The 6 and 3 relay cards are controlled by the actuation board and control some of the 230 V~ users.

Fig. 27



RELAY FUNCTION (see Wiring diagram)

RL1	=	MFB	MPF
RL2	=	MD6	MDFB
RL3	=	MF6	
RL4	=	MF7	MFFB
RL5	=	MD7	MDFB
RL6	=	MD8	MFB
K1	=	LF (door)	
K2	=	MAS	
K3	=	EVT	

BOILER CONTROL BOARD

This board (see Fig. 28) controls the instant boiler heating element.
The coffee boiler is controlled by a similar board fitted on the espresso module.

C.P.U. BOARD

The C.P.U. board (Central Processing Unit) controls all power users available for maximum configuration and processes the input signals from the push/button panel, the payment system and controls the actuation board.
The LEDs, during the machine operation, give the following indications:

- Green LED: blinks during normal operation of the C.P.U. board
- Yellow LED: glows when 5 V DC is present
- Red LED: glows in the event of a software reset.

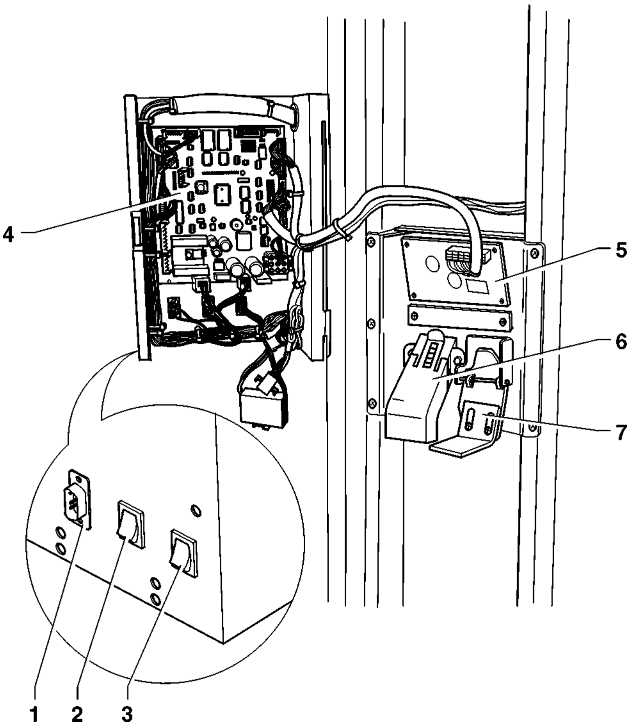


Fig. 28

1	- RS232 serial port
2	- Wash button
3	- Failure reset button
4	- C.P.U. board

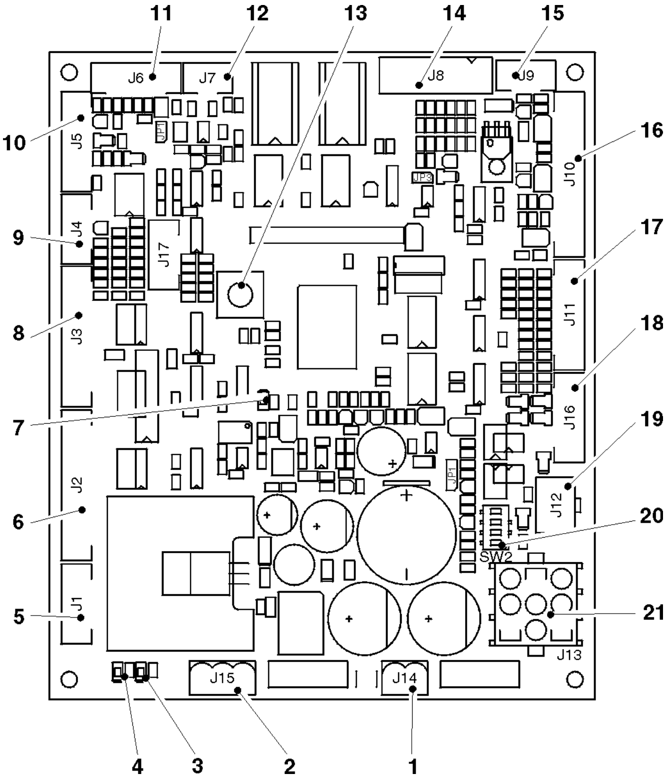


Fig. 29

1 - J14 Coin mechanism power supply
2 - J15 Board power supply
3 - Green LED: run (DL2)
4 - Yellow LED: 5 V DC (DL1)
5 - 24 V output connection
6 - 24 V output connection
7 - Red LED: CPU board reset (DL3)
8 - J3 Input/output
9 - J4 not used
10 - J5 programmer (RS232)
11 - J6 not used
12 - J7 can bus
13 - Button not used
14 - J8 Validators
15 - J9 not used
16 - J10 LCD (Liquid crystal display)
17 - J11 Push-button panel
18 - J16 Push-button panel
19 - J12 MDB coin mechanism
20 - Coin mechanism setting Minidip (SW2)
21 - J13 Expansion for BDV/EXE

CONFIGURING THE ELECTRONIC BOARDS

The electronic boards are designed to be used in many machine models.
When the boards are replaced, or when wishing to change the unit performance, ensure that the board configuration is correct and download the appropriate software.

SOFTWARE UPDATE

The machine is fitted with Flash EPROMs which can be electronically updated.
By means of a special program and suitable system (Personal Computer or similar) the machine management software can be updated without replacing the EPROMs.

PROGRAMMER (OPTIONAL)

AUTOMATIC SETUP TRANSFER

With the programmer device, the programming routines set and transferred to other machines can be read from a reference vending machine.
This data is preserved also when the programmer is disconnected thanks to two Duracell batteries LR03 Format AAA 1.5 V (to be replaced every 12 months).
The programmer allows up to twenty different programs (setups) to be stored.
To differentiate among the 20 set-ups available those containing data, a special character is displayed, and namely:

< - > = Setup free

< □ > = Setup with data.

When creating the setup only those programs containing data are available; if no setup contains data, the message "no data available" will appear on the programmer display.
To connect the programmer to the machine the special holder is to be used (see Fig. 30) connecting the special cable to the connector of the C.P.U. board (see Fig. 29).
Then enter the "programming" mode.
At this point, inserting the programmer in its holder, connection will take place automatically, and the setup menu will be shown on the programmer dsisplay:

- press key	Ⓔ	to access the displayed function;
- press key	Ⓞ	to display the next function;
- press key	Ⓒ	to display the previous function.

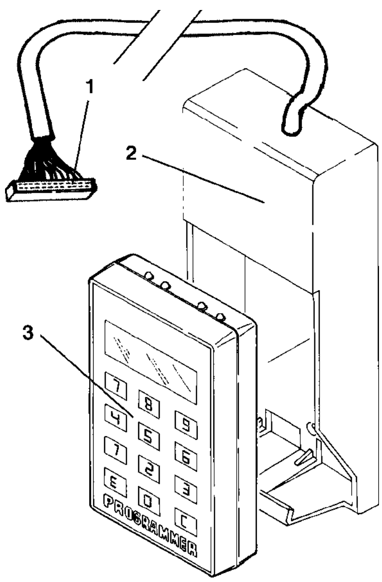


Fig. 30

1 - Connector
2 - Holder
3 - Programmer

PROGRAMMER SETUP READING	SETUP READING SETUP 01 <X>	SETUP 01 <X> Confirm?
	SETUP READING SETUP 20 <X>	
PROGRAMMER CREATE SETUP	CREATE SETUP SETUP 01 <X>	SETUP 01 <X> Confirm?
	CREATE SETUP SETUP 20 <X>	

TRANSFERRED DATA

The programming data which are transferred are as follows:

· Price table

· Prices/selection status

· Decimal point position

· Discount data

. Time bands

. Refrigeration parameters

CONFIGURING THE LANGUAGE

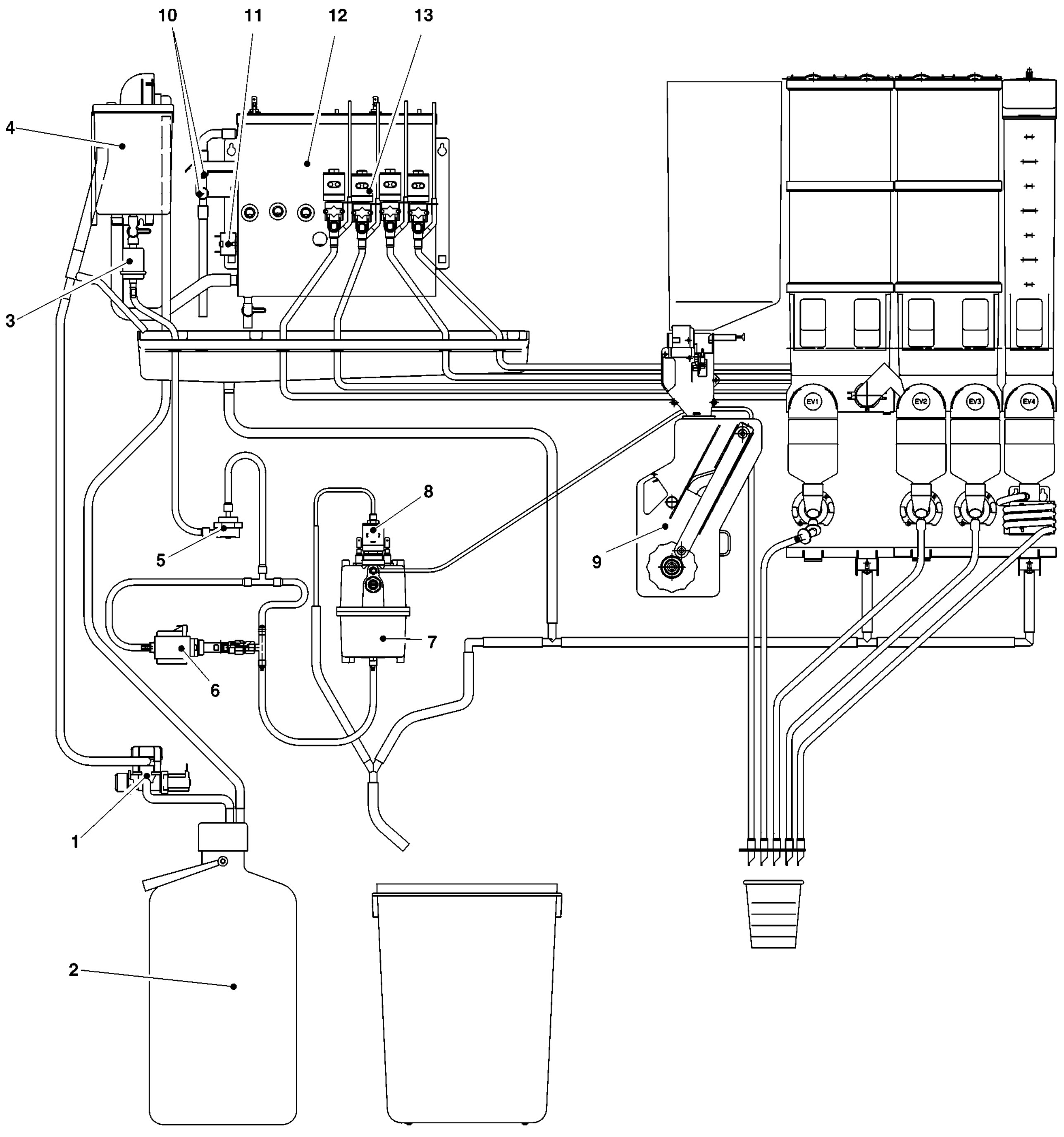
It is possible to change the programmer configuration regarding the language in which the messages are to be displayed as well as to reset all of the data therein contained.
To activate the "Programmer configuration" mode do as follows:

- insert the programmer in its holder and start the machine.

- wait about 10 seconds and then press programmer keys Ⓒ and Ⓞ the first function will be displayed:

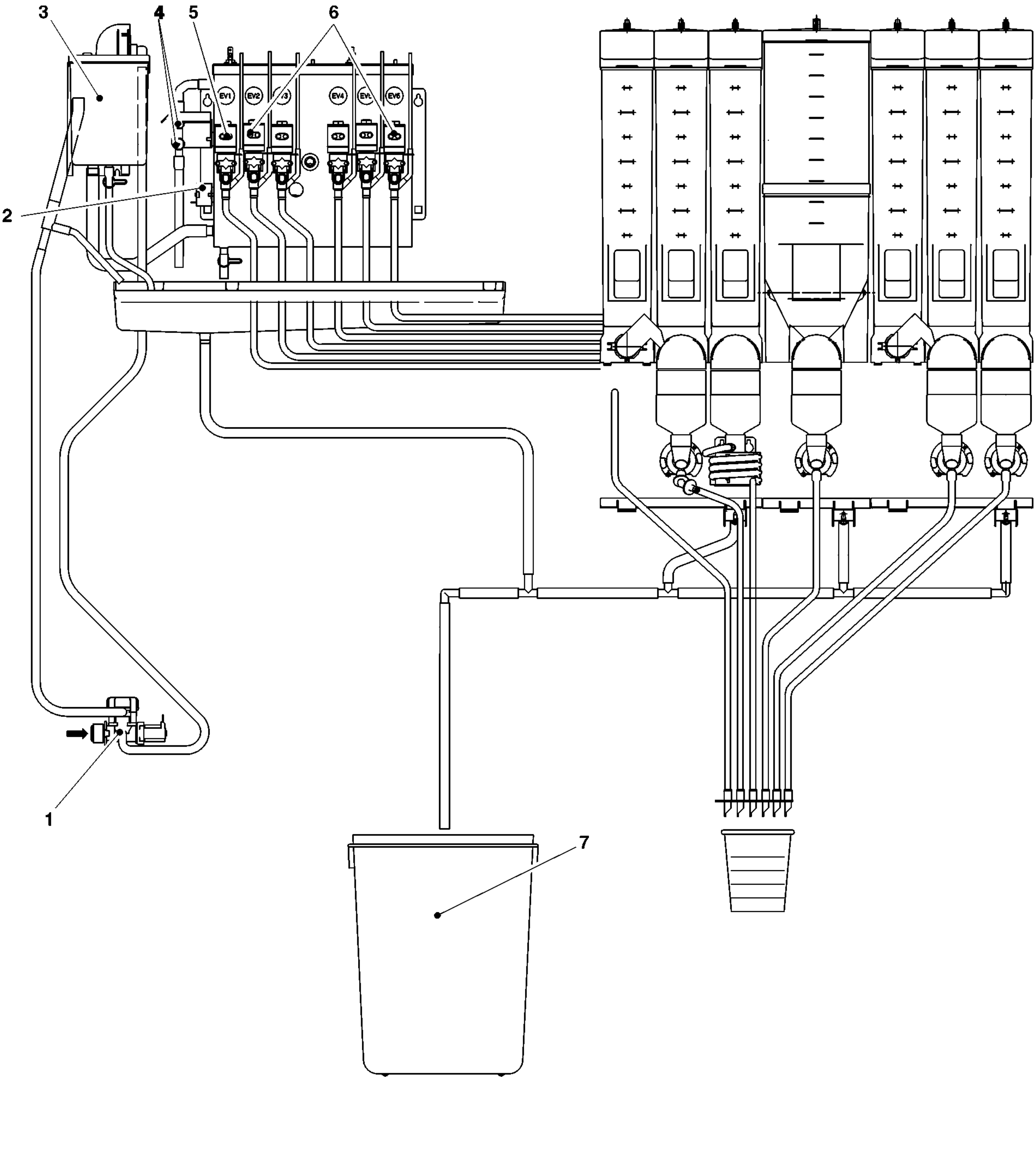
CONFIGURATION LANGUAGE	CONFIGURATION ITALIAN	CONFIGURATION Confirm?
	CONFIGURATION FRENCH	
	CONFIGURATION GERMAN	
	CONFIGURATION ENGLISH	
	CONFIGURATION SPANISH	
CONFIGURATION	INITIALISING INITIALISING	Confirm?
CONFIGURATION CONFIG. END	Exit from the configuration menu The software restarts from address 0000 (as when starting the machine)	

HYDRAULIC SYSTEM FOR ESPRESSO



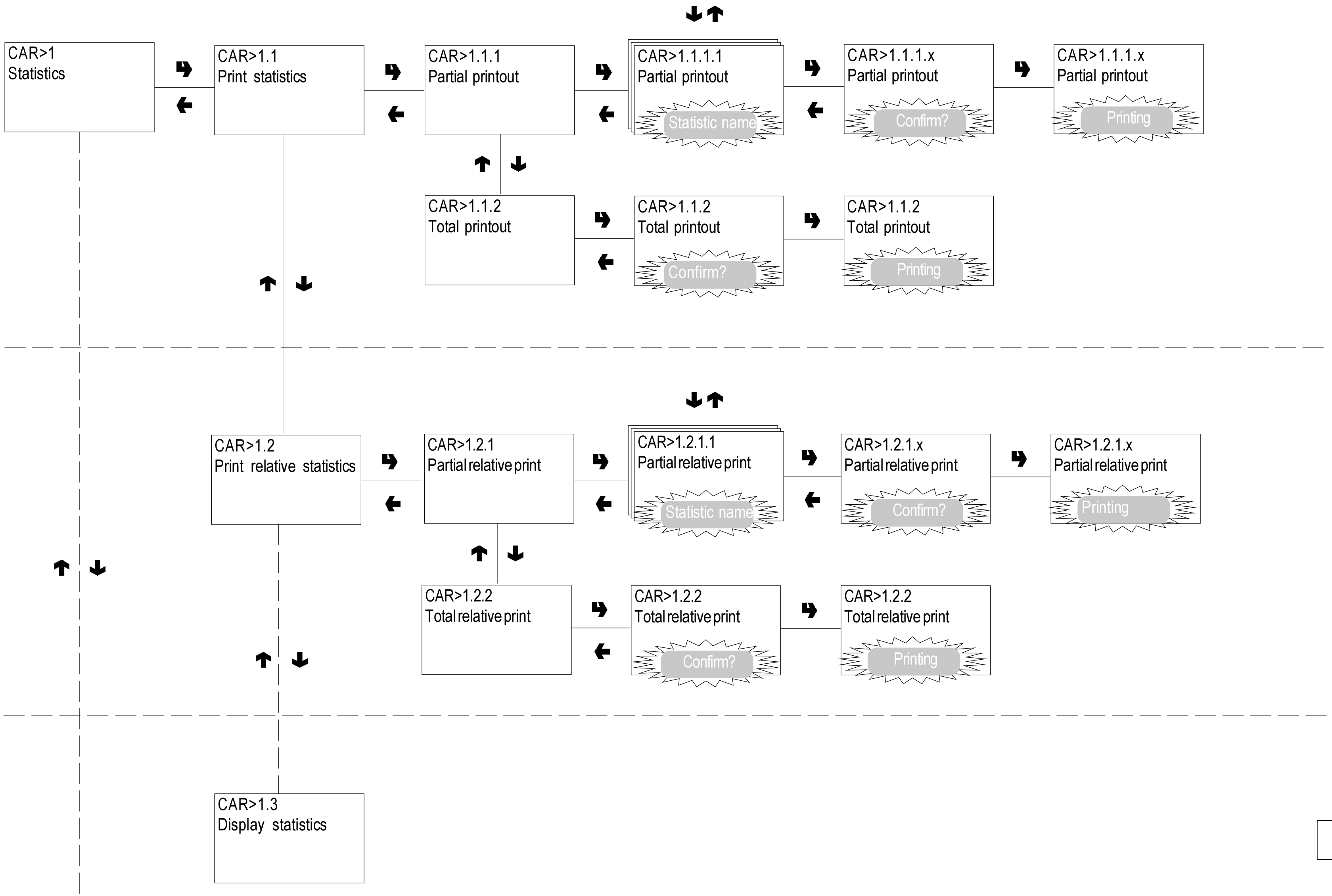
1 - Water inlet solenoid valve
2 - Water softener (if provided)
3 - Mechanical filter
4 - Air-break
5 - Volumetric counter
6 - Vibration pump
7 - Coffee boiler
8 - Coffee dispensing solenoid valve
9 - Coffee unit
10 - Anti-boiling thermostats
11 - Safety thermostat
12 - Instant boiler
13 - Instant prod. solenoid valves

HYDRAULIC SYSTEM FOR INSTANT



1 - Water inlet solenoid valve
2 - Safety thermostat
3 - Air break
4 - Anti-boiling thermostats
5 - Anti-boiling thermostats
6 - Instant prod. solenoid valves
7 - Liquid waste container

Filler menu - Summary



TOTAL STATISTICS

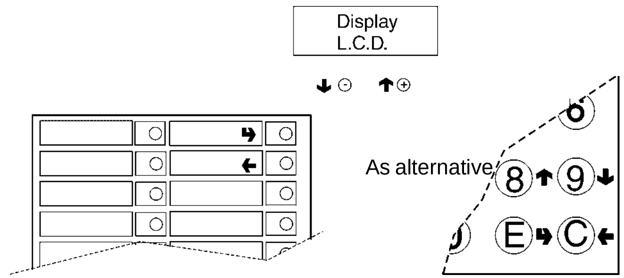
With the printer connected print all data as displayed

Print data by:
Selections
Time bands
Discounts
Failures
Coin mechanism data

Heading:
Current date
Machine model
Software edition
Operator code
Machine code
Installation date

Print data by:
Selections
Time bands
Discounts
Failures
Coin mechanism data

RELATIVE STATISTICS



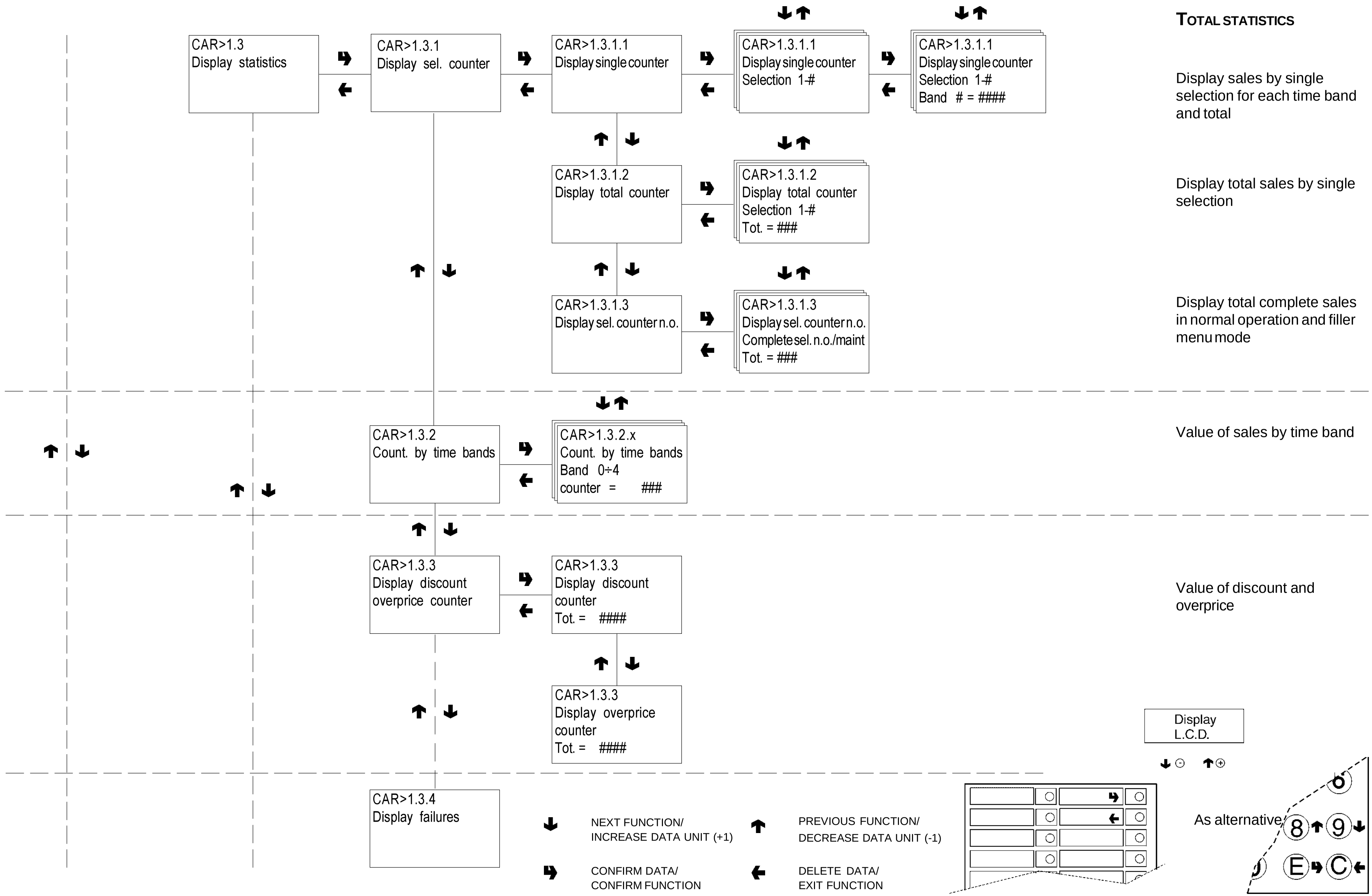
NEXT FUNCTION/
INCREASE DATA UNIT (+1)

PREVIOUS FUNCTION/
DECREASE DATA UNIT (-1)

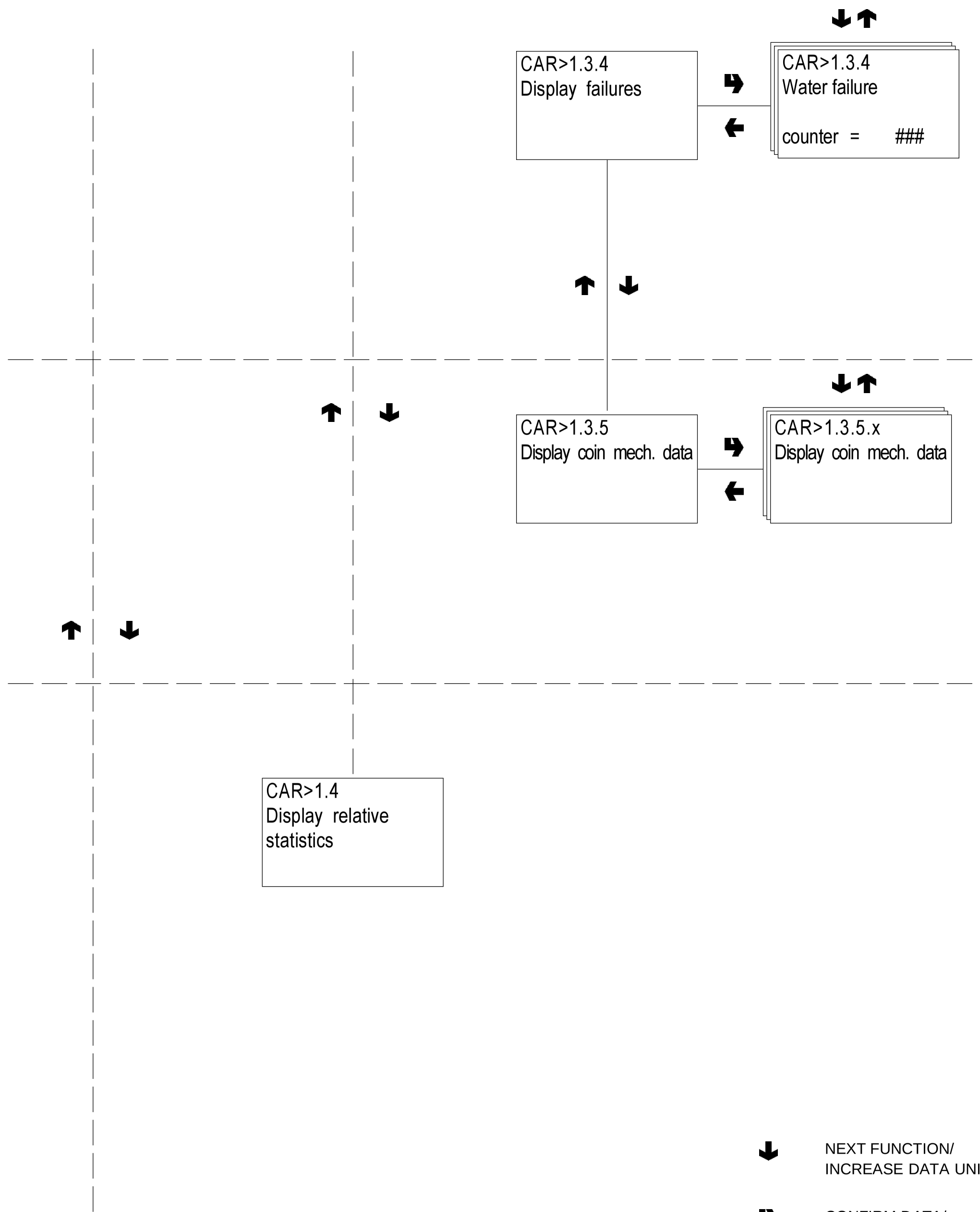
CONFIRM DATA/
CONFIRM FUNCTION

DELETE DATA/
EXIT FUNCTION

Filler menu - Summary



Filler menu - Summary



FAILURE LIST
Water failure
Instant boiler
Espresso boiler 1
Mobile spouts
Cup failure
Coffee unit 1
Coffee failure 1
Coffee release
Volumetric counter 1
Liquid waste full
Air-break failure
Coin mechanism
RAM data

COIN MECHANISM DATA
(according to the protocol used)

Validators and Executive
Cashed and sold

BDV Audit

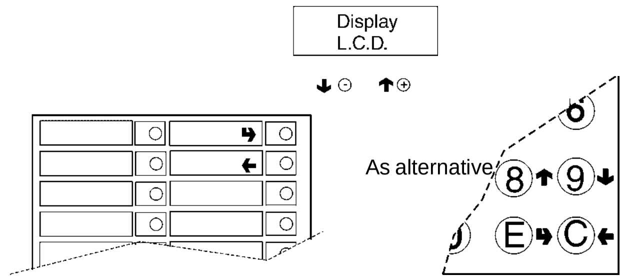
MDB Audit

NEXT FUNCTION/
INCREASE DATA UNIT (+1)

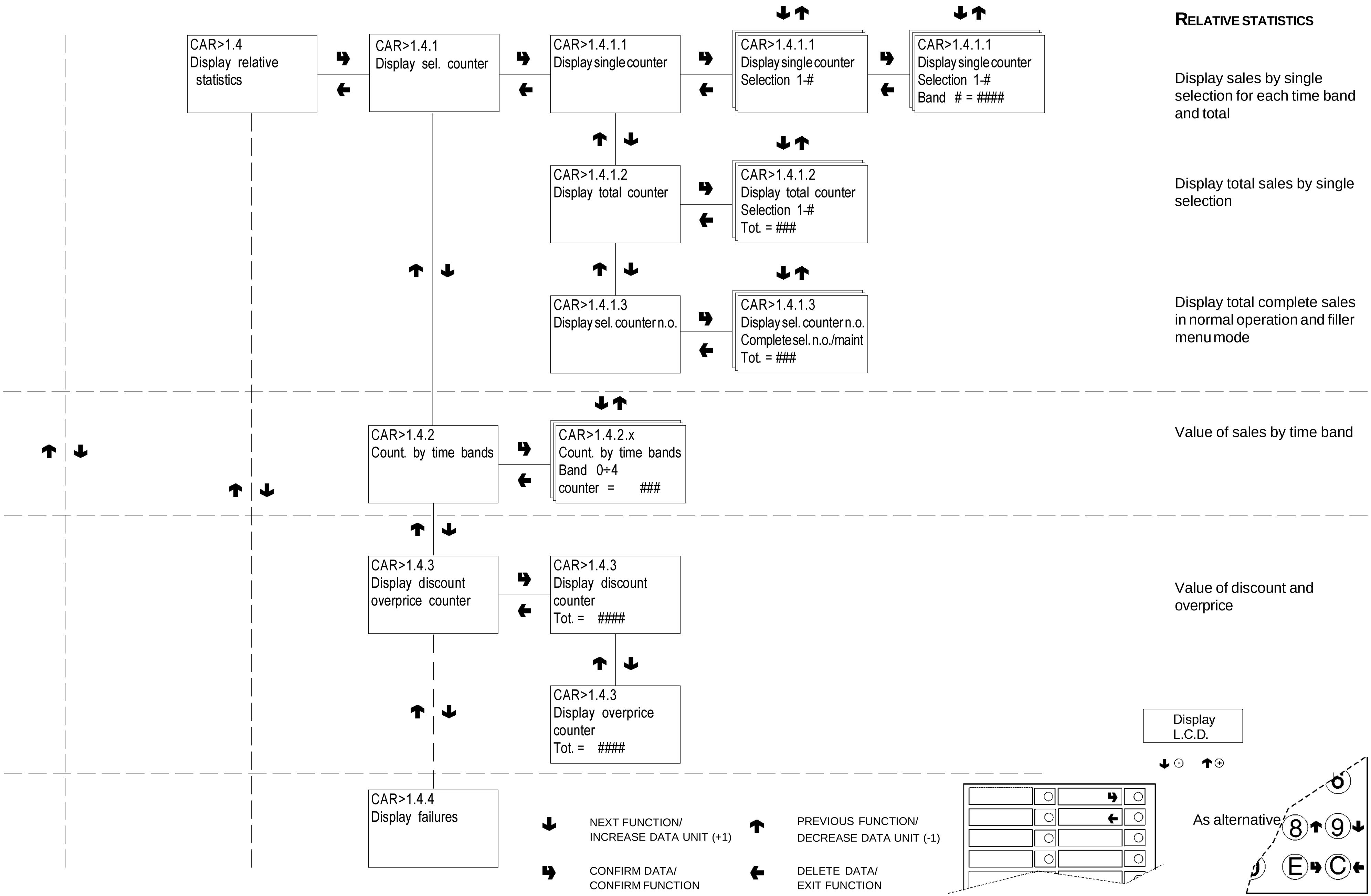
PREVIOUS FUNCTION/
DECREASE DATA UNIT (-1)

CONFIRM DATA/
CONFIRM FUNCTION

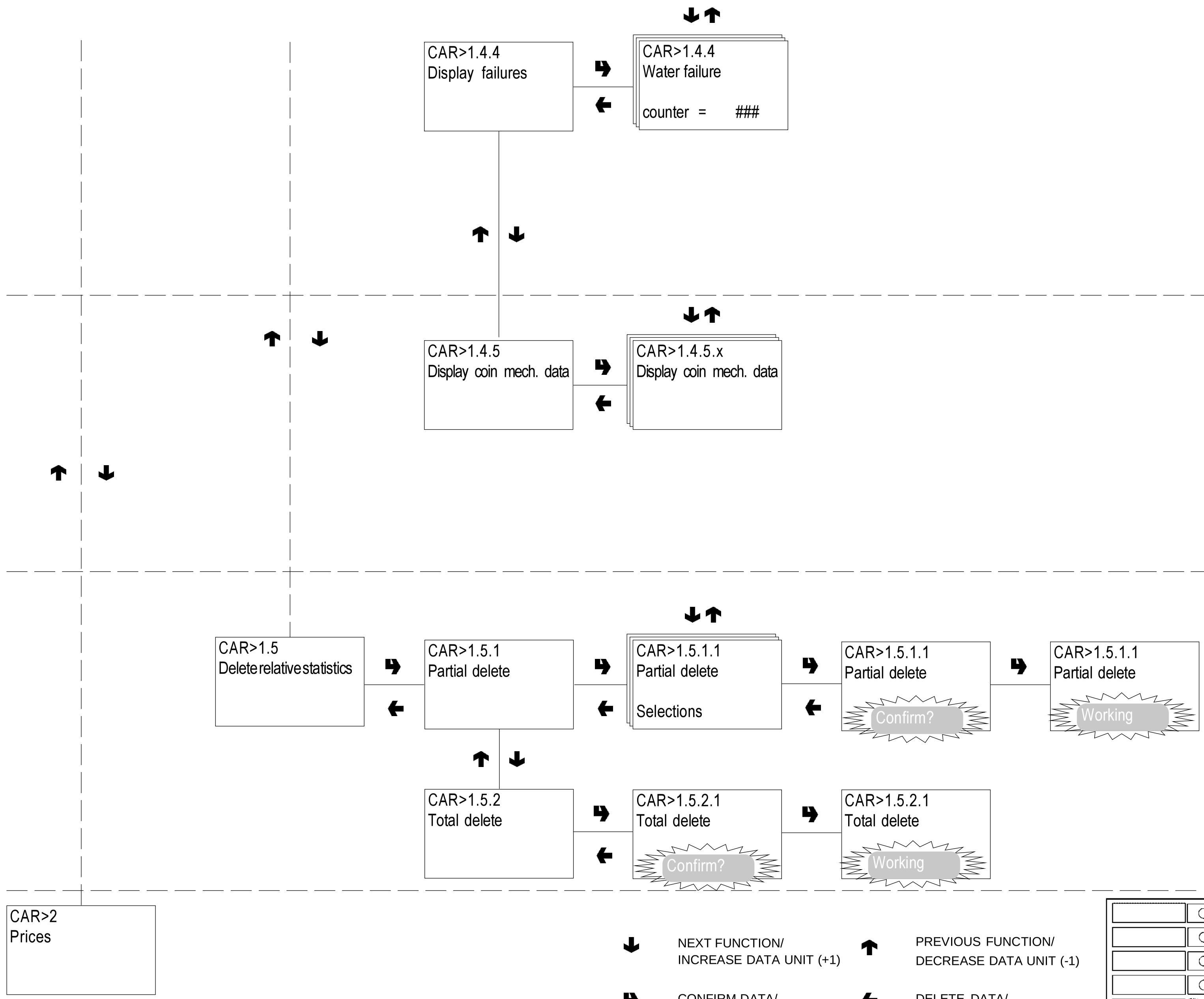
DELETE DATA/
EXIT FUNCTION



Filler menu - Summary



Filler menu - Summary



RELATIVE STATISTICS

LIST OF FAILURES
Water failure
Instant boiler
Espresso boiler 1
Mobile spouts
Cup failure
Coffee unit 1
Coffee failure 1
Coffee release
Volumetric counter 1
Liquid waste full
Air-break failure
Coin mechanism
RAM data

COIN MECHANISM DATA (according to the protocol used)

Validators and Executive
Cashed and sold

BDV Audit

MDB Audit

RELATIVE STATISTICS

Delete data by:
Selections
Discount/overprice
Failures
Coin mechanism data

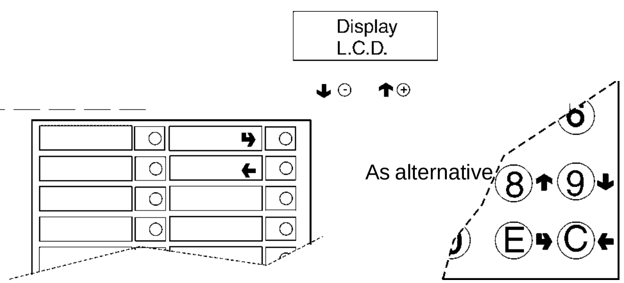
Delete all data

NEXT FUNCTION/ INCREASE DATA UNIT (+1)

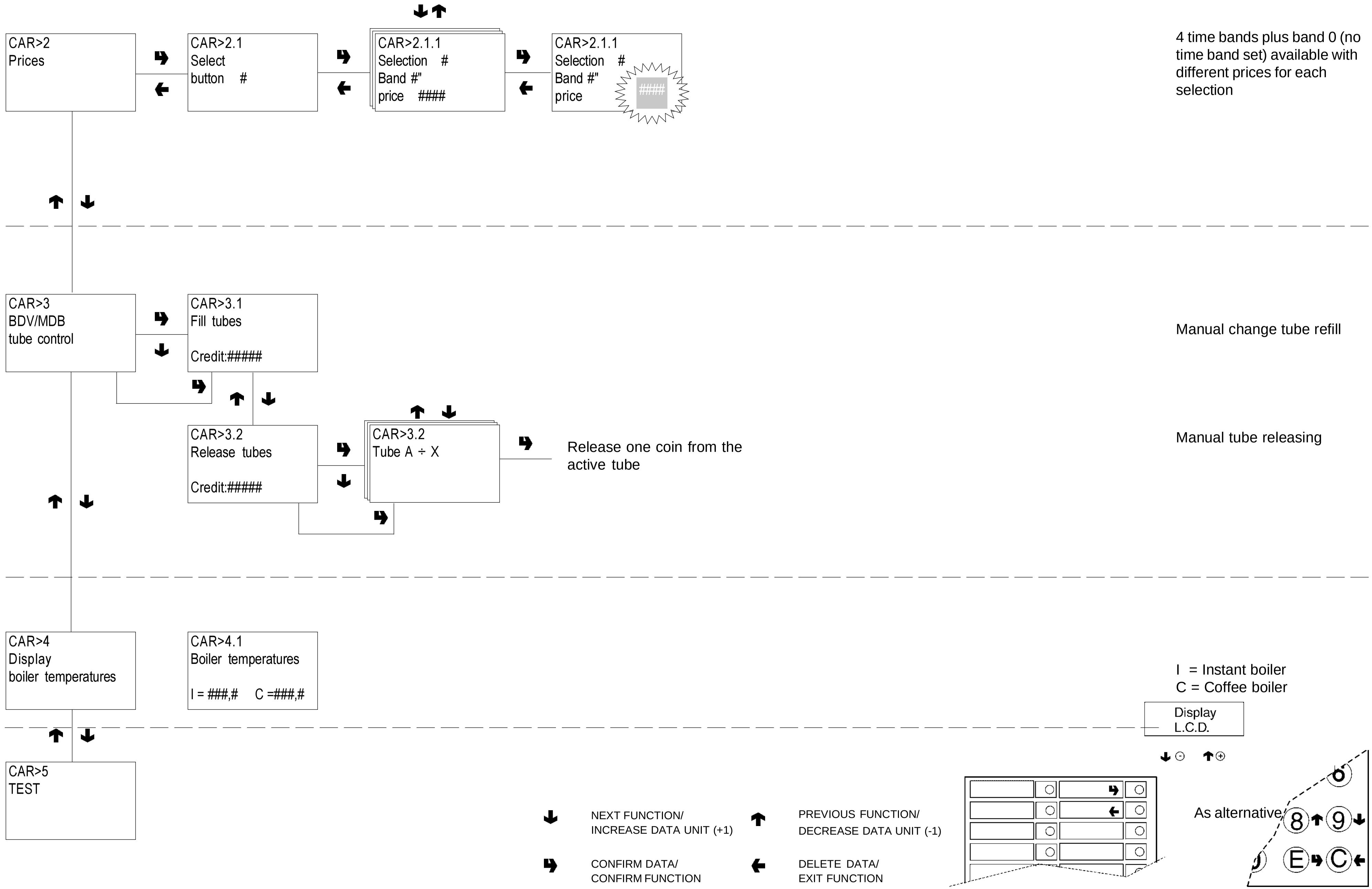
PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)

CONFIRM DATA/ CONFIRM FUNCTION

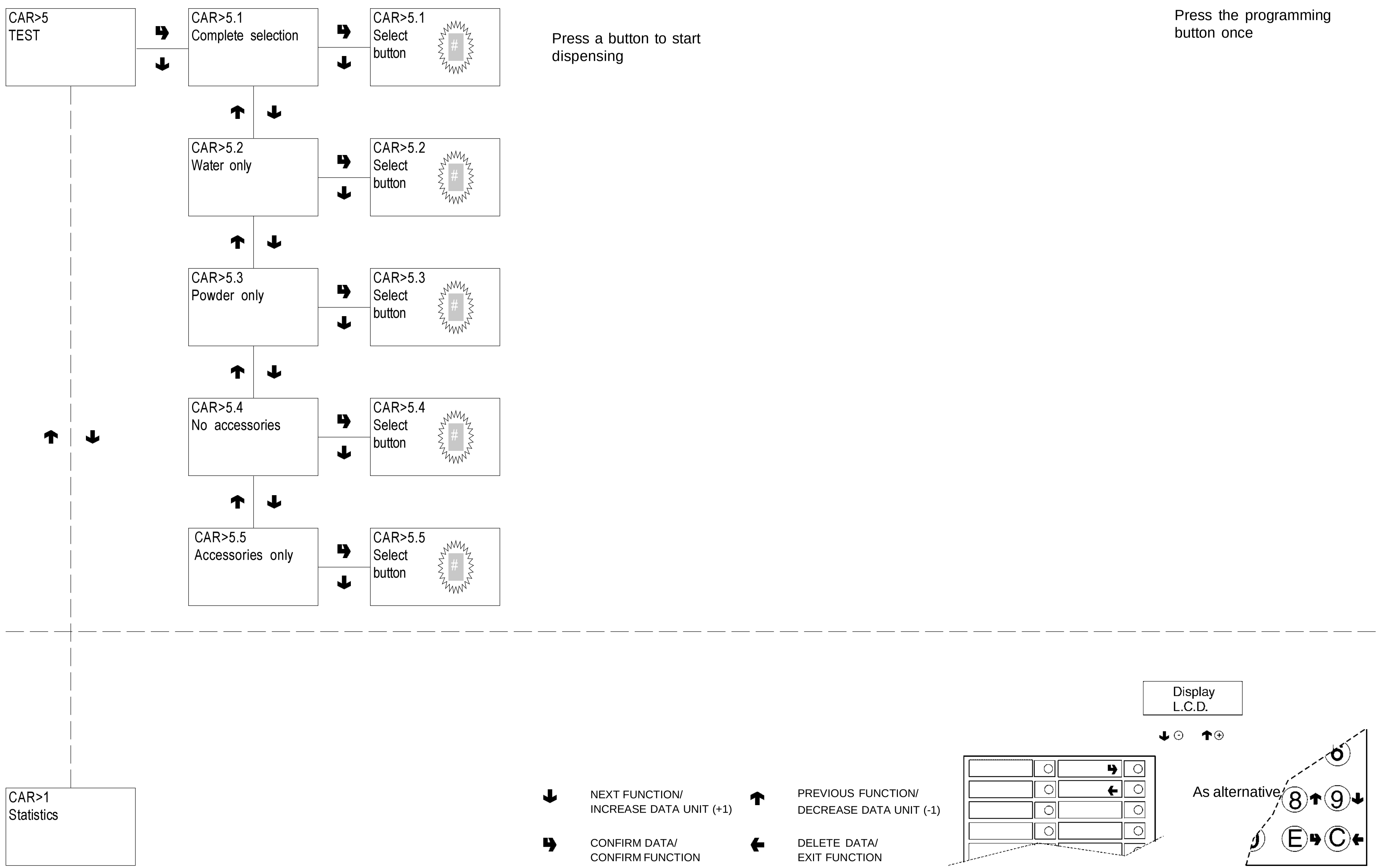
DELETE DATA/ EXIT FUNCTION



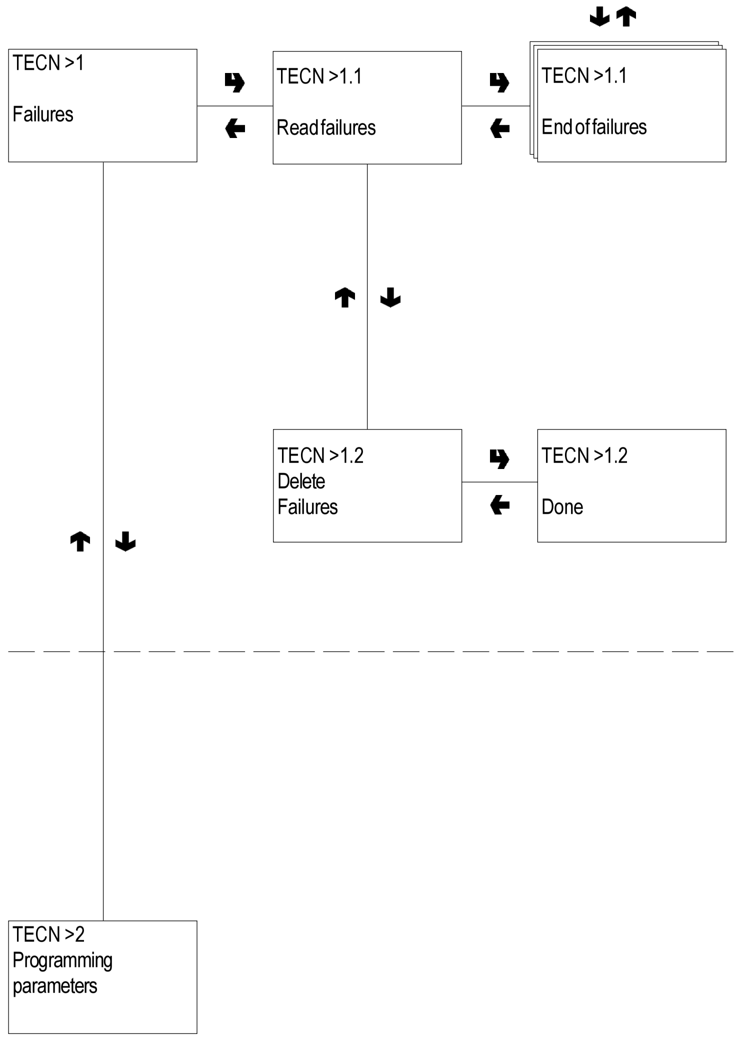
Filler menu - Summary



Filler menu - Summary



Technician menu - Summary



Time scrolling of present failures

DISPLAY FAILURES

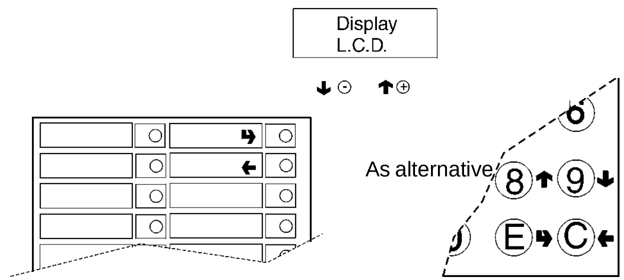
FAILURE LIST
Water failure
Liquid waste full
Air-break
Cup failure
Mobile spouts
Volumetric counter
Instant boiler
Machine board
Coin mechanism
Coffee release
Espresso unit
Coffee failure
RAM data
Espresso boiler
Cup release
Fresh-brew piston
Fresh-brew scraper

↓ NEXT FUNCTION/ INCREASE DATA UNIT (+1)

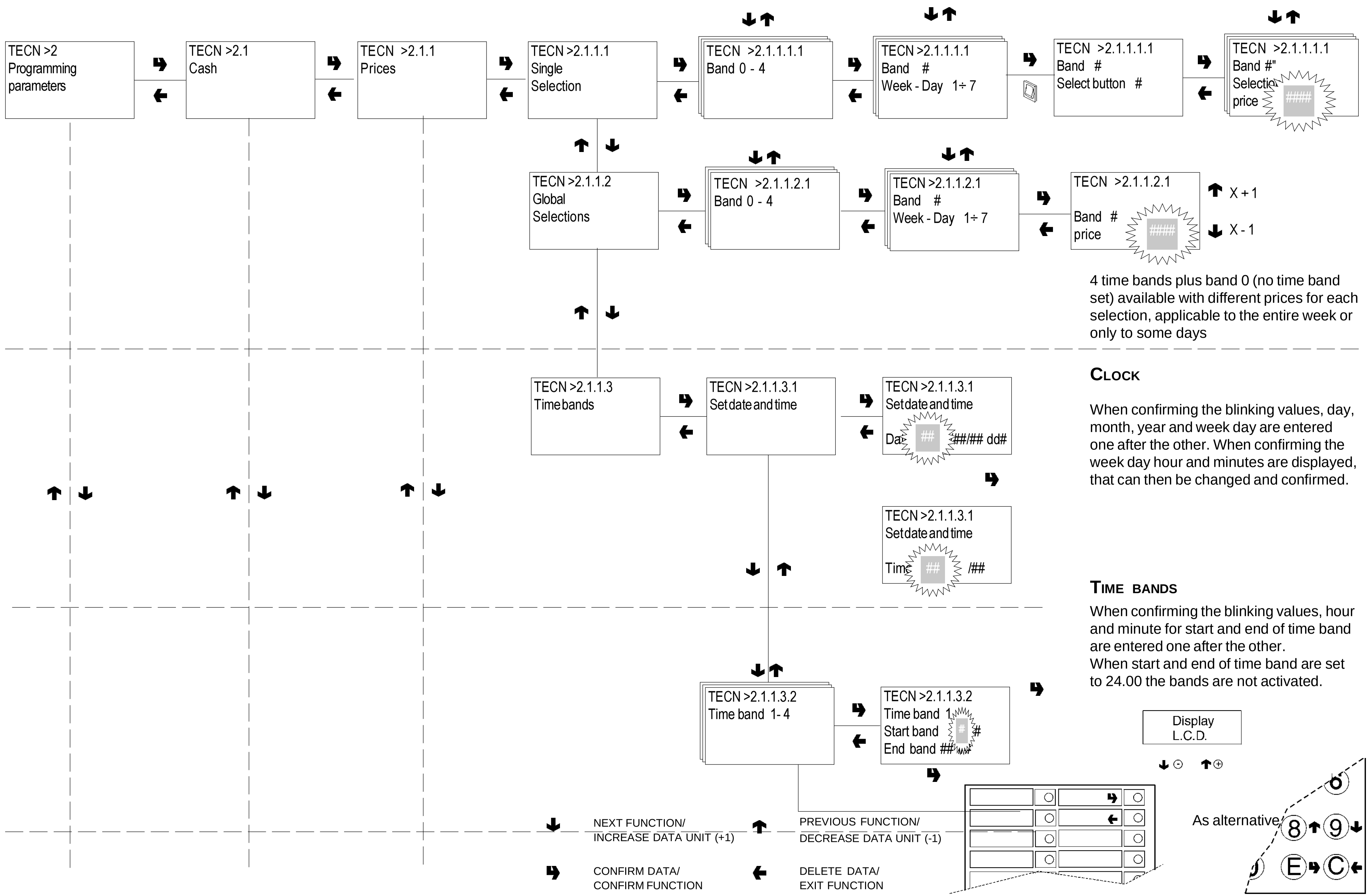
↑ PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)

↳ CONFIRM DATA/ CONFIRM FUNCTION

← DELETE DATA/ EXIT FUNCTION



Technician menu - Summary



4 time bands plus band 0 (no time band set) available with different prices for each selection, applicable to the entire week or only to some days

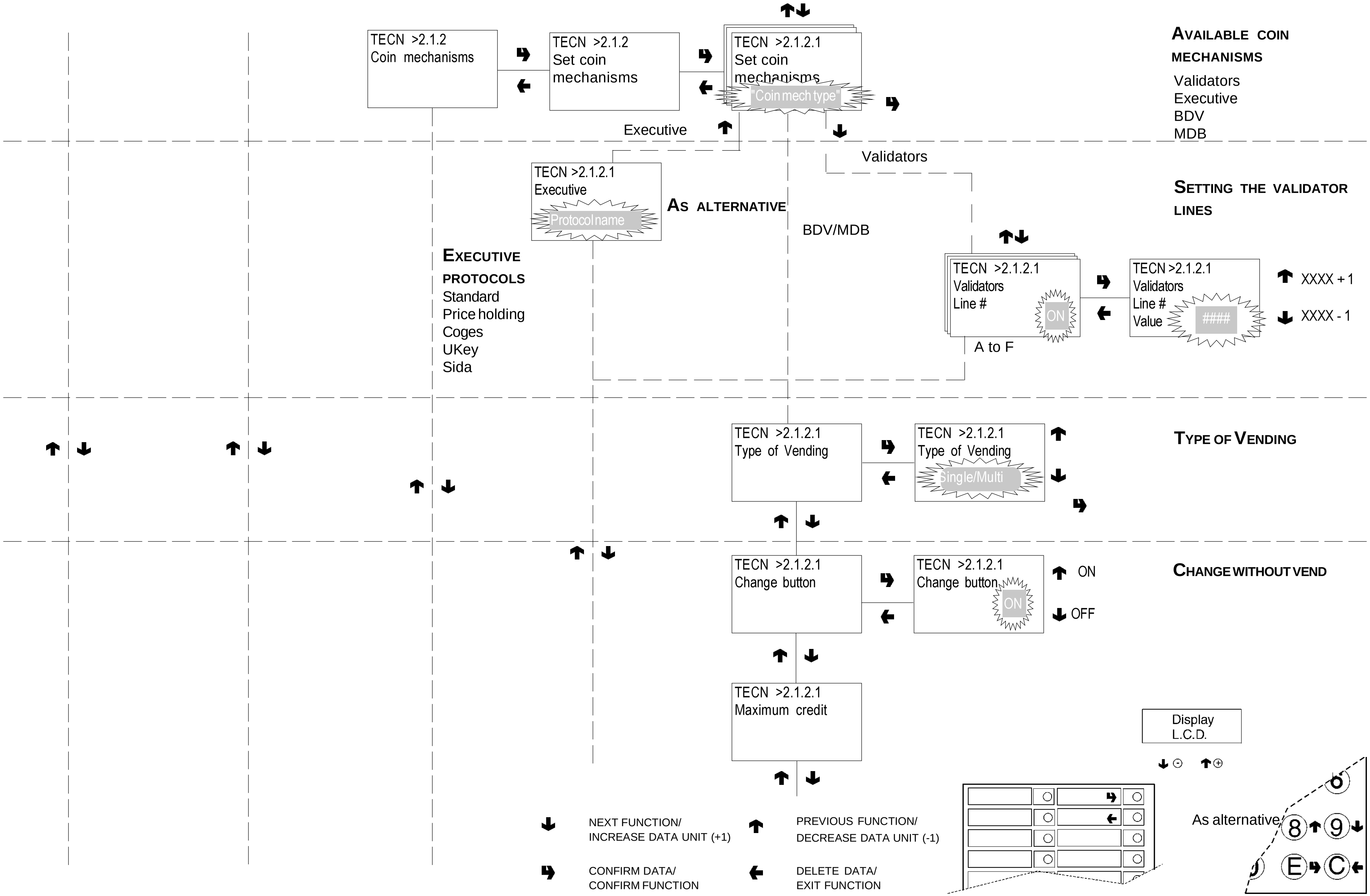
Clock

When confirming the blinking values, day, month, year and week day are entered one after the other. When confirming the week day hour and minutes are displayed, that can then be changed and confirmed.

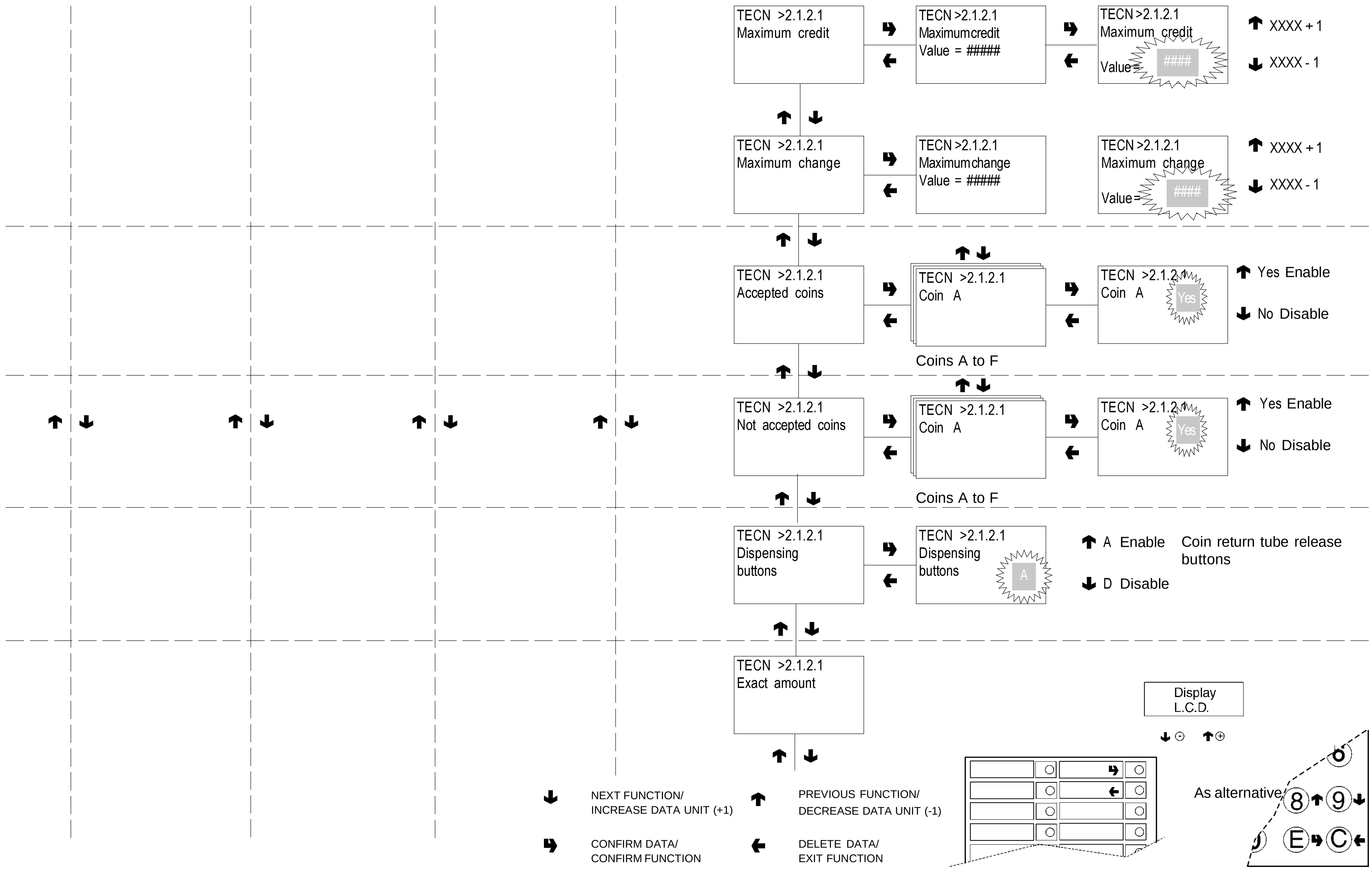
Time bands

When confirming the blinking values, hour and minute for start and end of time band are entered one after the other.
When start and end of time band are set to 24.00 the bands are not activated.

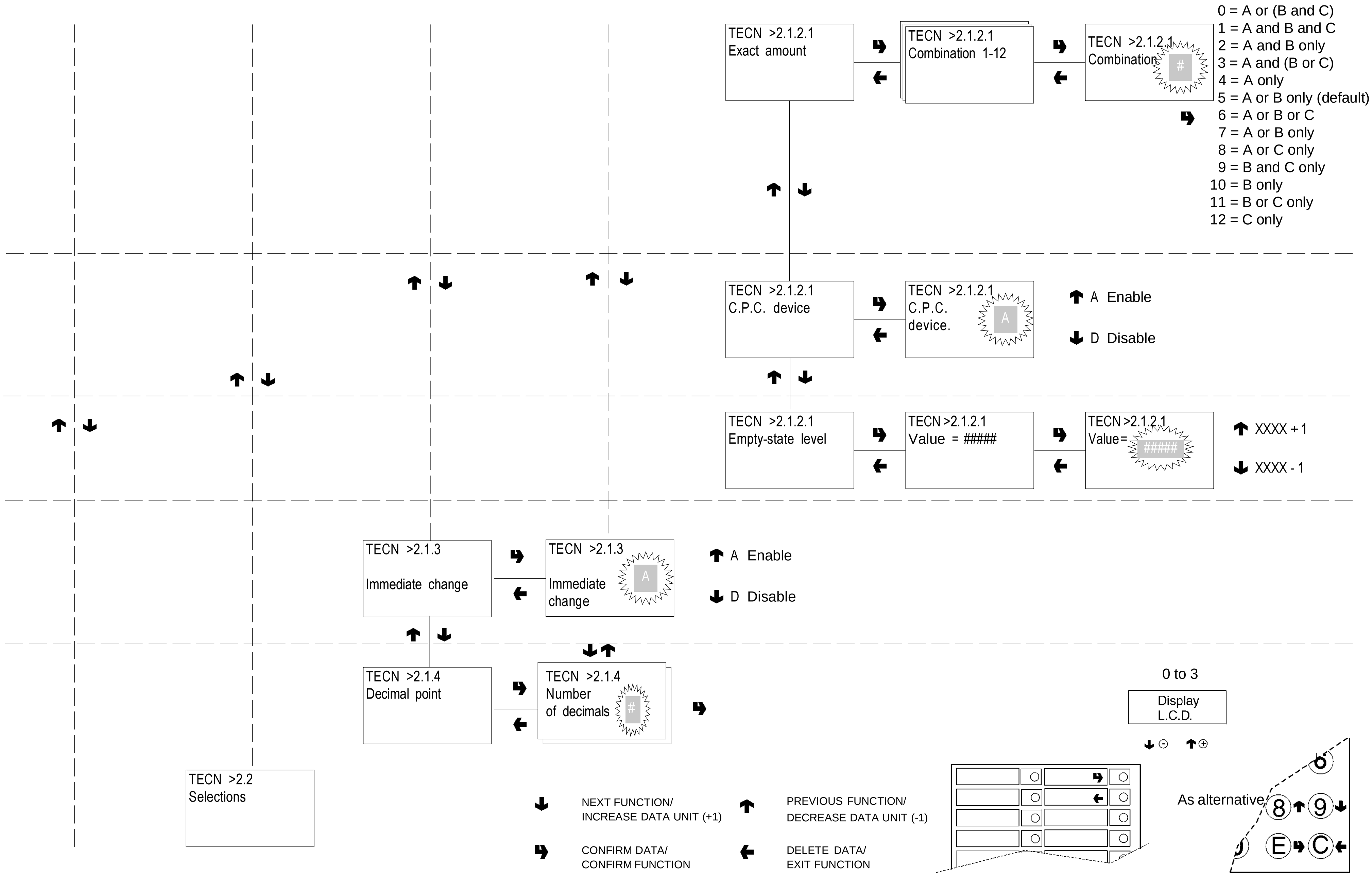
Technician menu - Summary



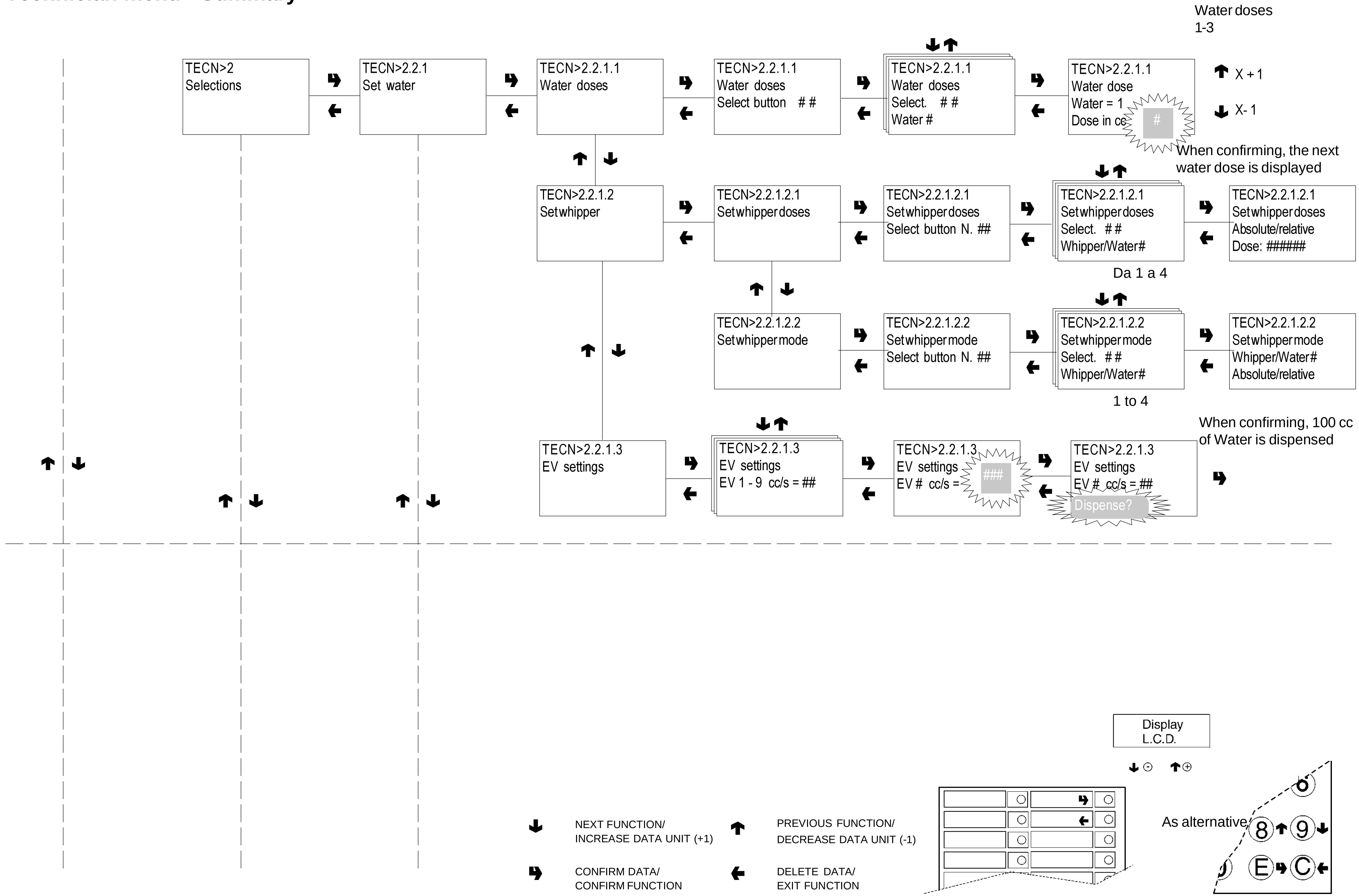
Technician menu - Summary



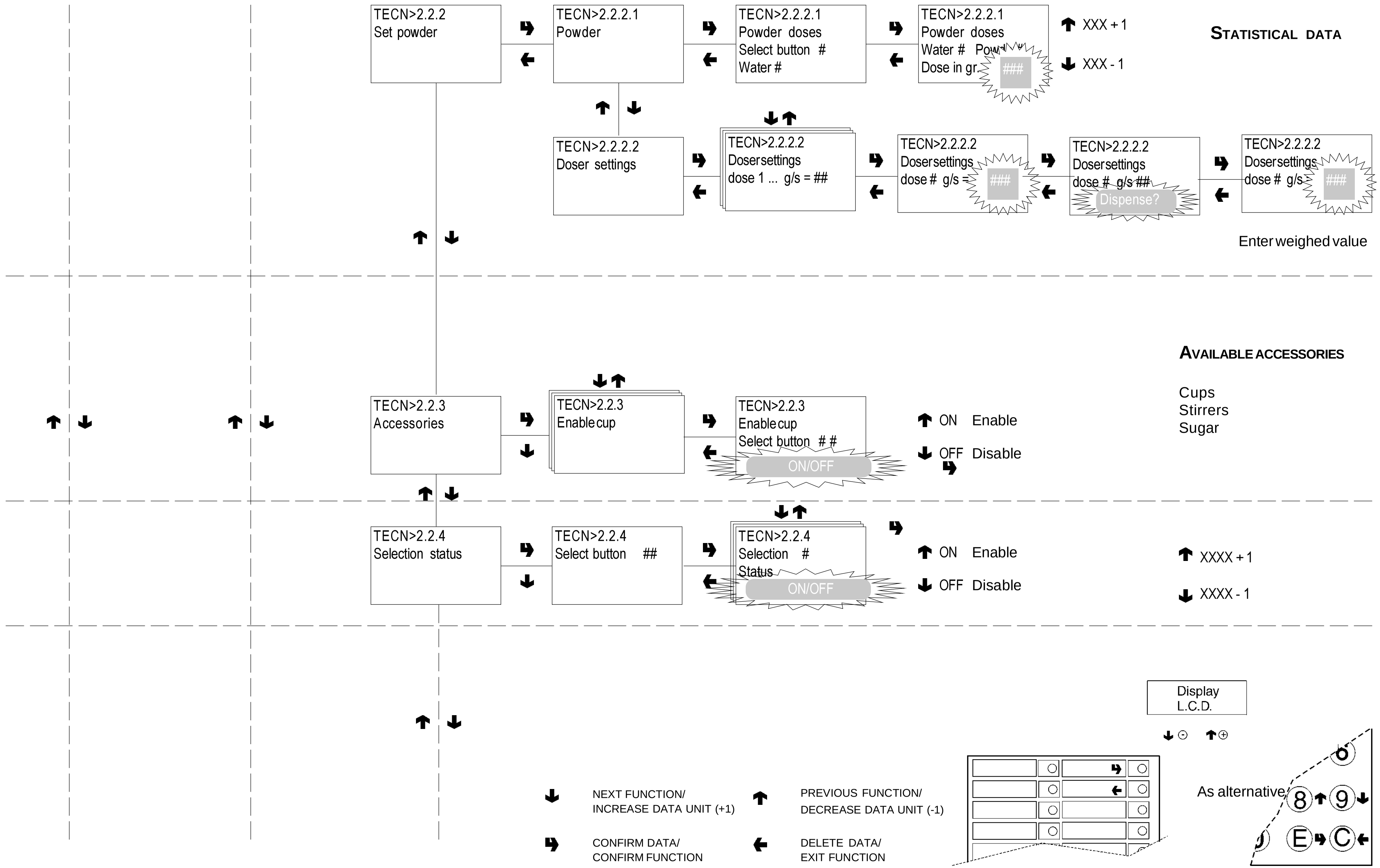
Technician menu - Summary



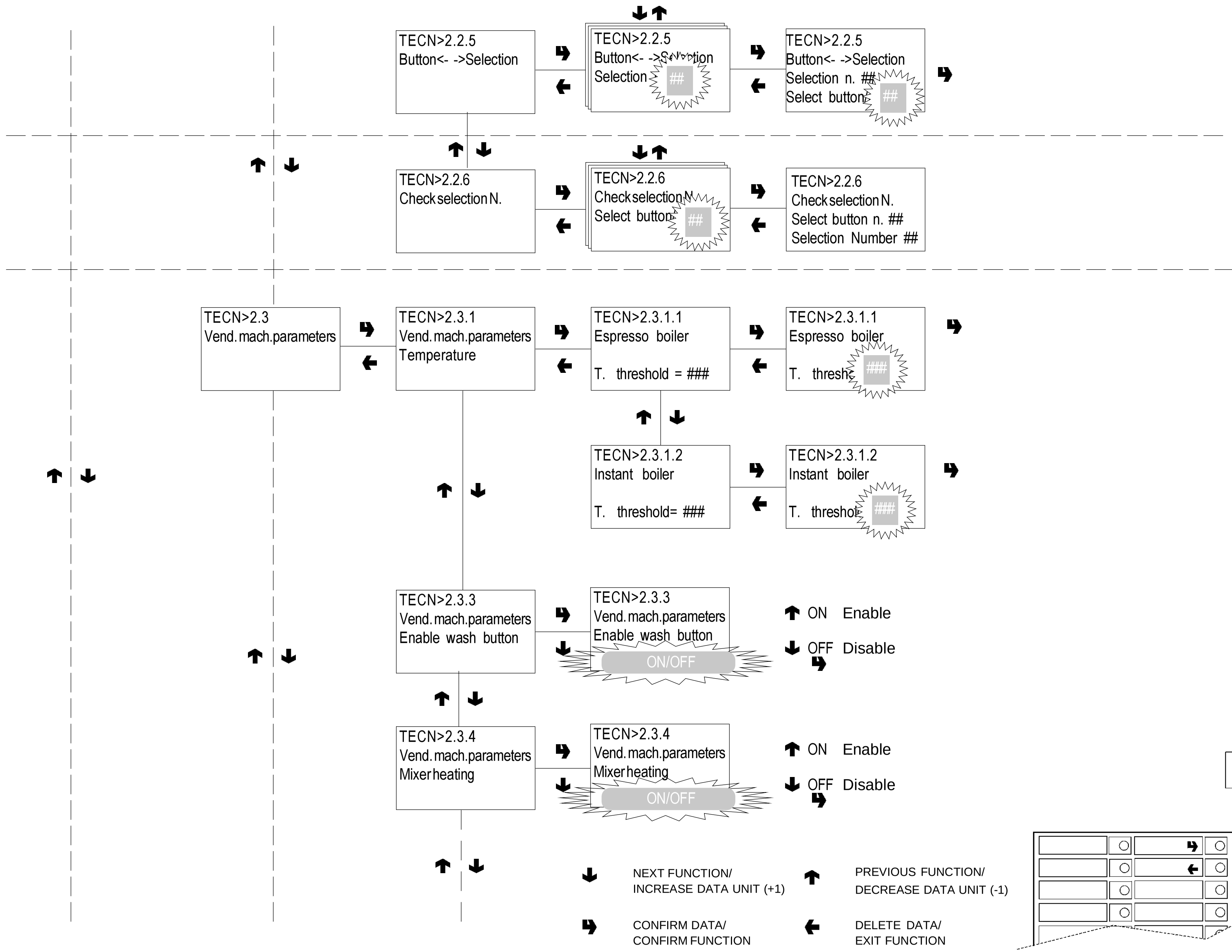
Technician menu - Summary



Technician menu - Summary



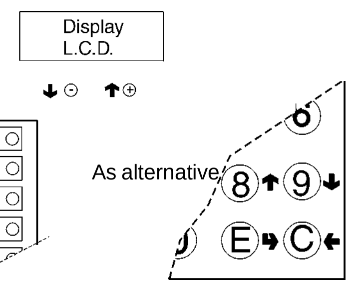
Technician menu - Summary



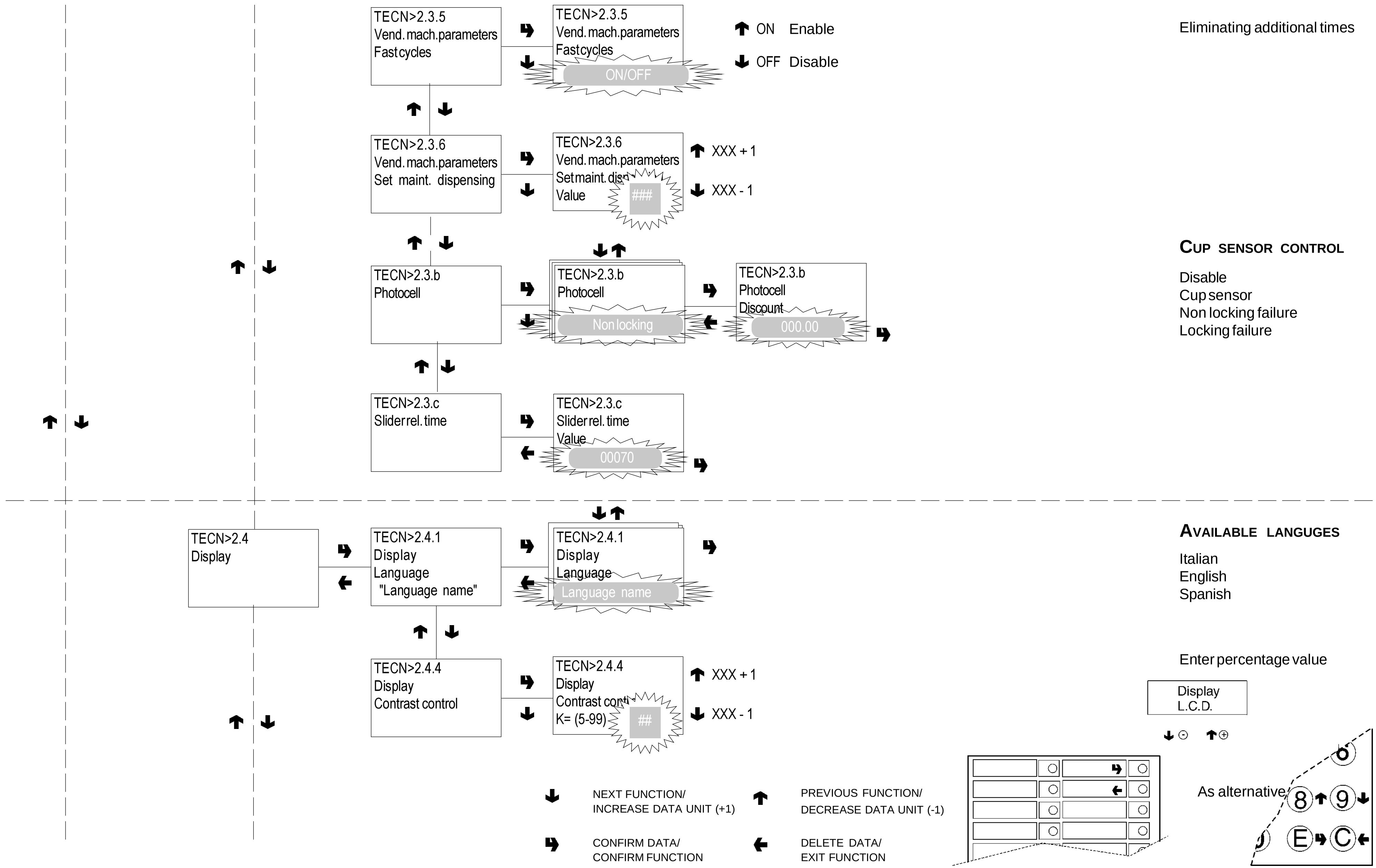
ONLY FOR MODELS WITH DIRECT BUTTONS

When pressing a button and confirming it is assigned to the selection number

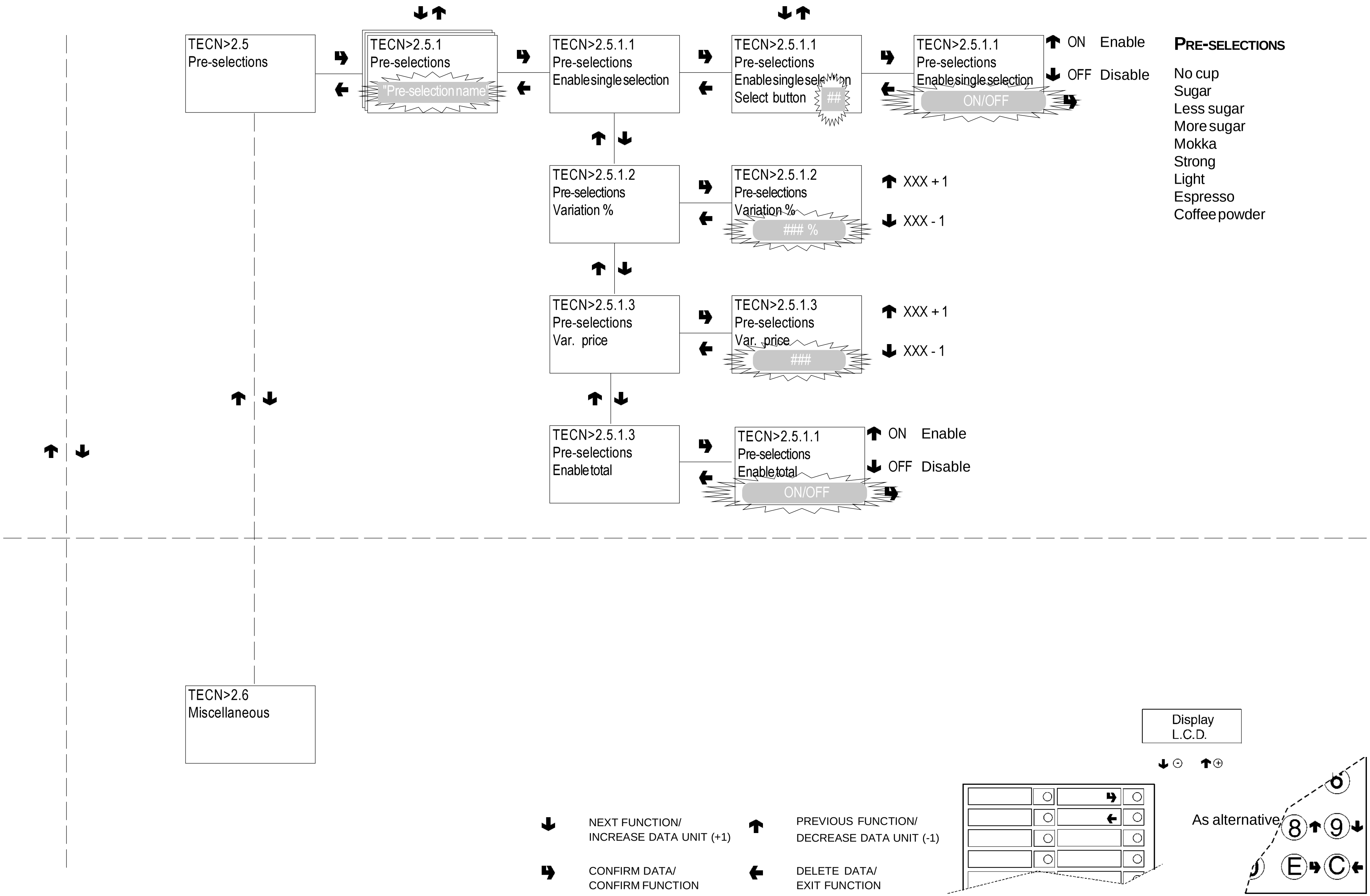
The selection number assigned to the button is displayed for 5 tenths of a second



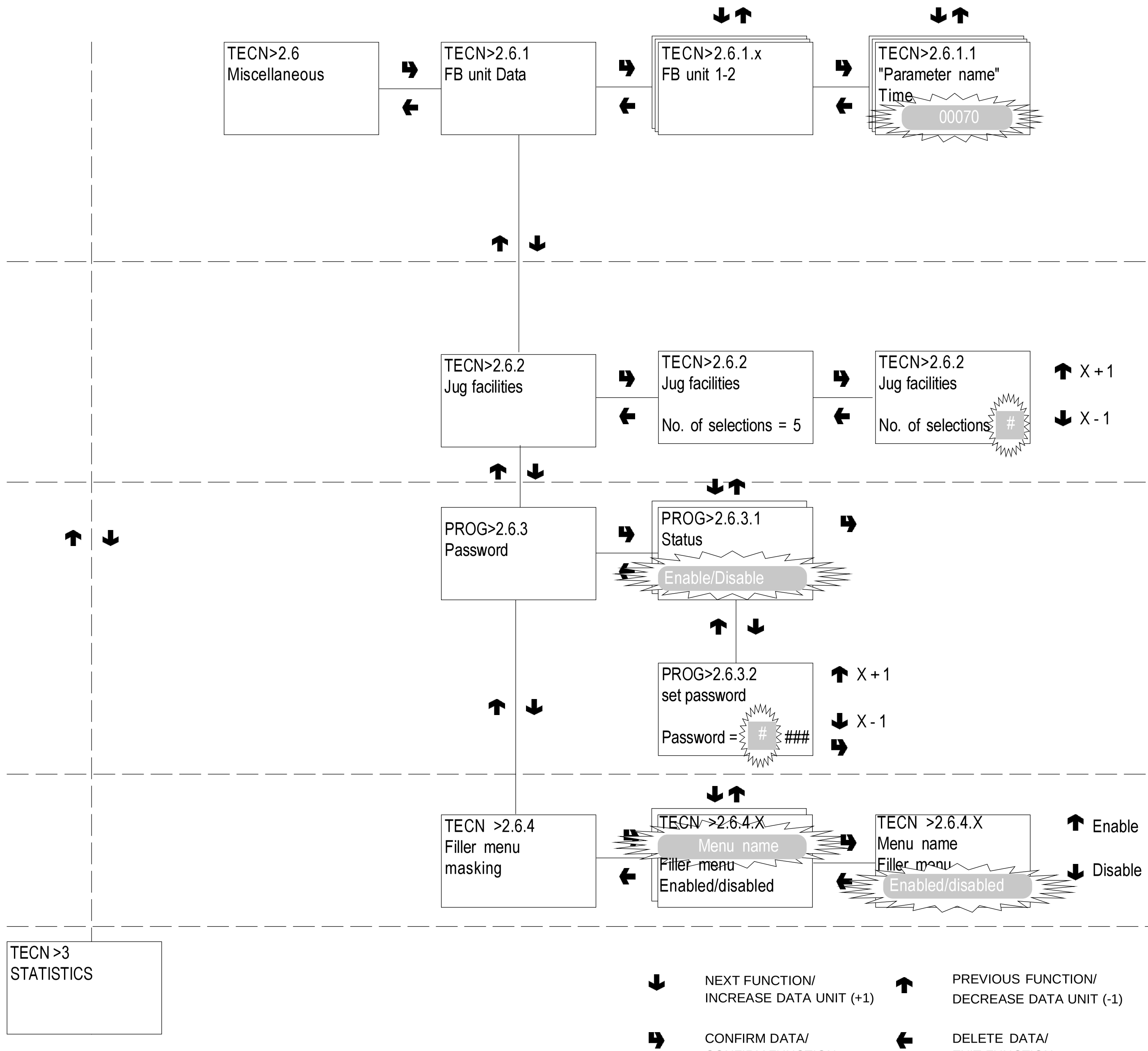
Technician menu - Summary



Technician menu - Summary



Technician menu - Summary



FRESH BREW UNITS

Two units can be installed

Parameter settings:

Pre-brewing time
Drying time
Whipping status
Wash status

Number of free consecutive selections
1 to 9

Five-digit number to access programming.
If set to Zero (default) the password is not requested

FILLER MENU MASKED

Statistics
Prices
BDV tube control
Boiler tempetature
Test
GSM

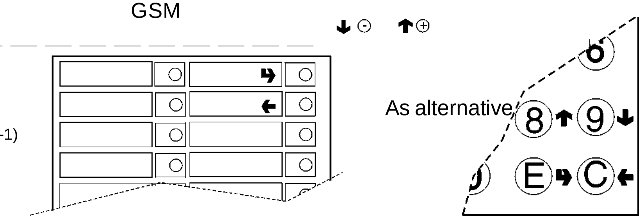
Display L.C.D.

NEXT FUNCTION/ INCREASE DATA UNIT (+1)

PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)

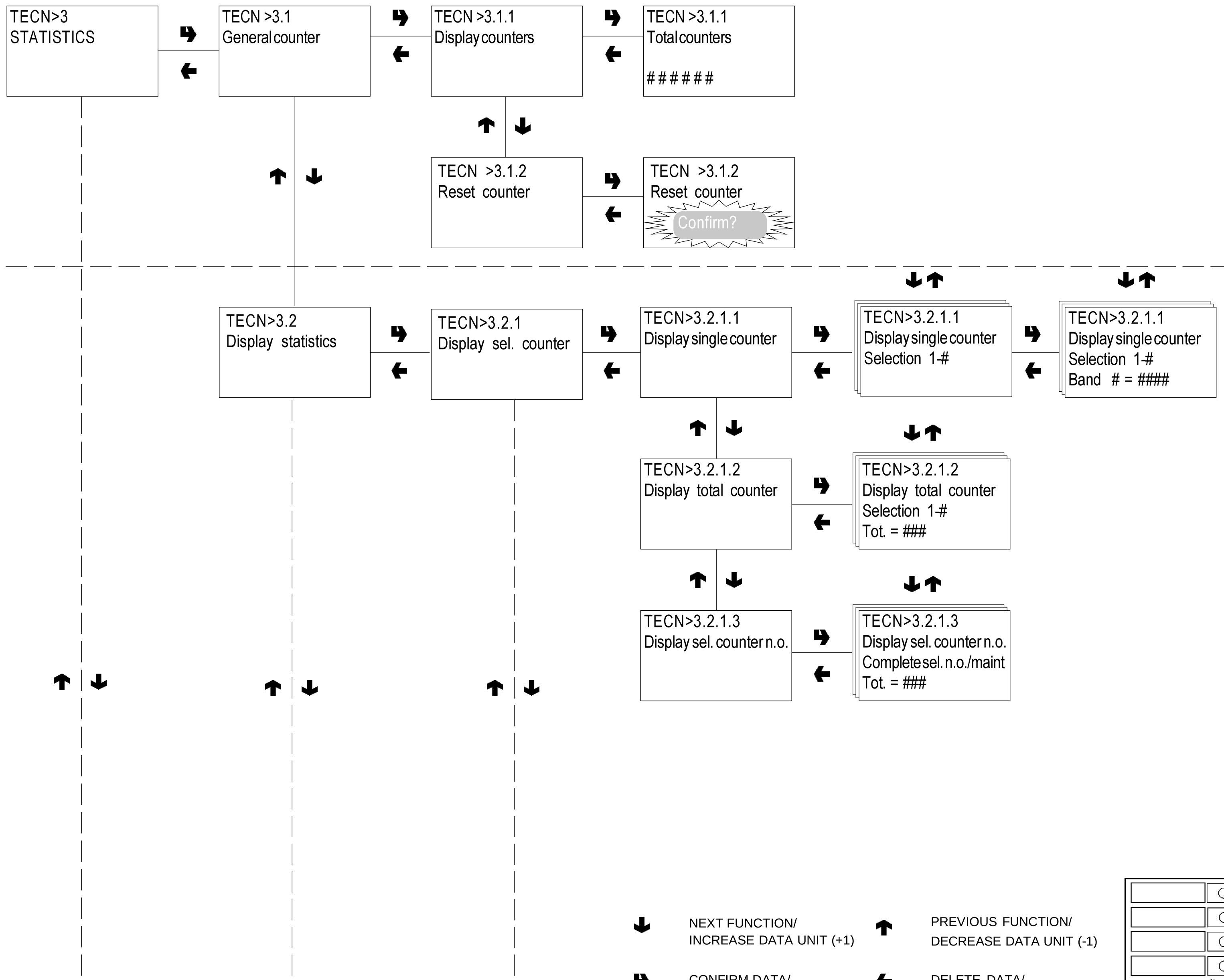
CONFIRM DATA/ CONFIRM FUNCTION

DELETE DATA/ EXIT FUNCTION



0210 206-00

Technician menu - Summary

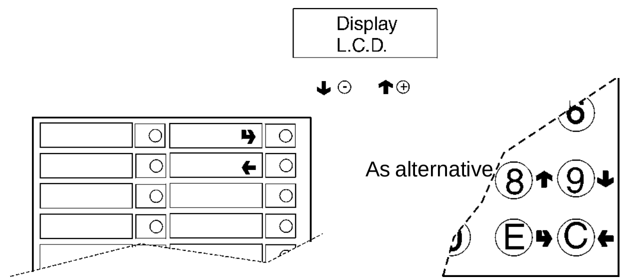


Total statistics

Display sales by single selection for each time band and total

Display total sales by single selection

Display total complete sales in normal operation and filler menu mode



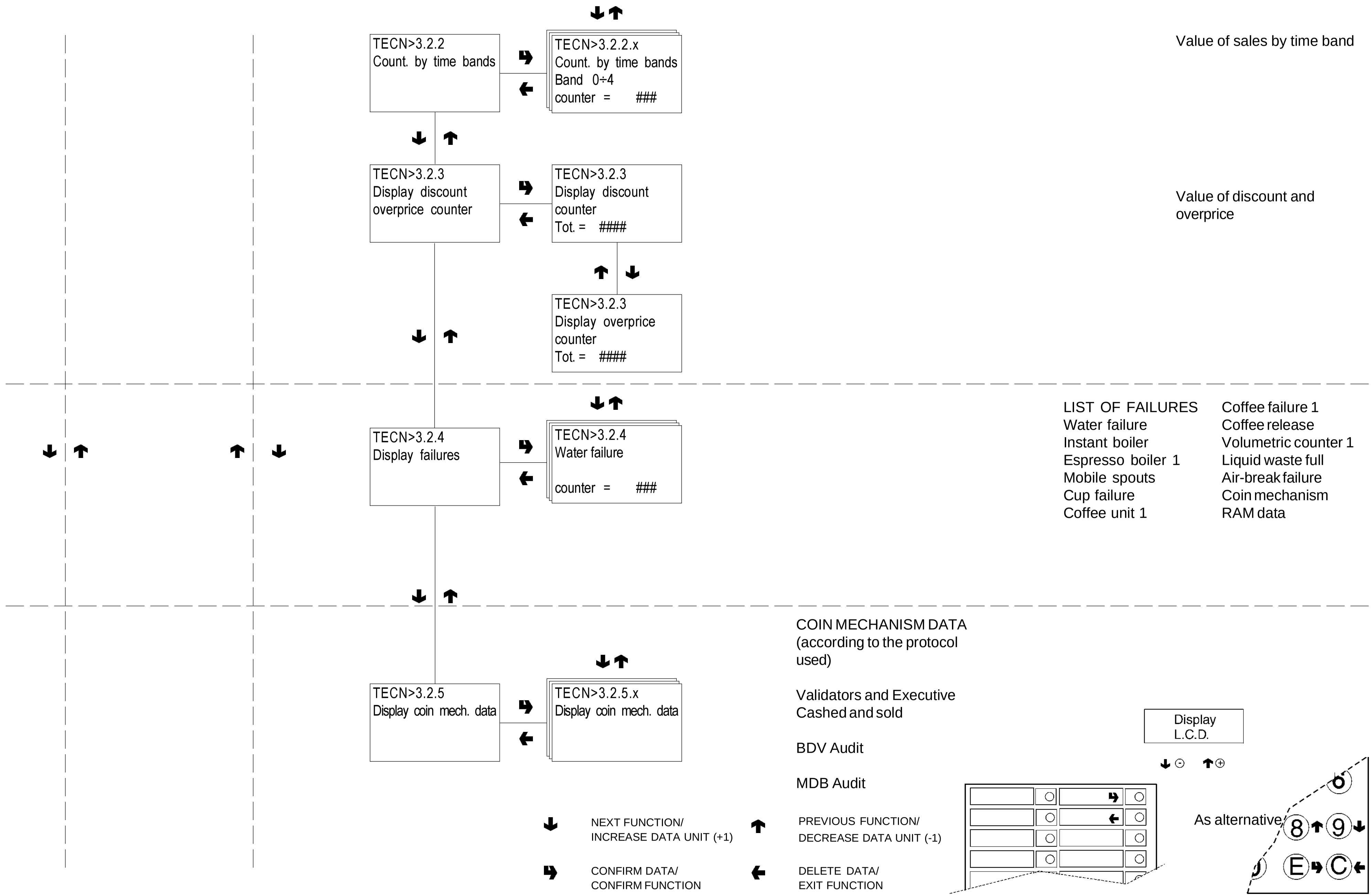
NEXT FUNCTION/
INCREASE DATA UNIT (+1)

CONFIRM DATA/
CONFIRM FUNCTION

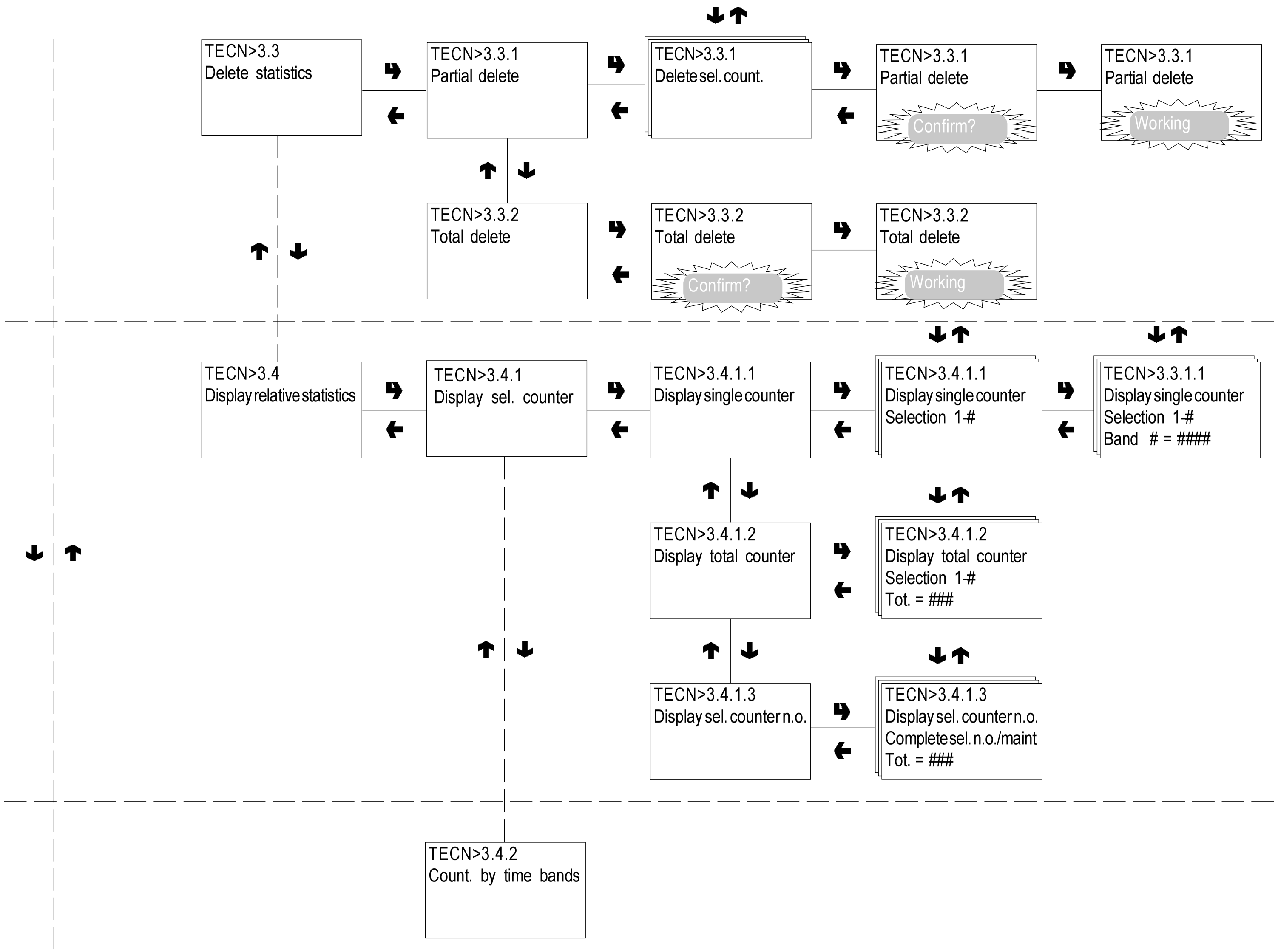
PREVIOUS FUNCTION/
DECREASE DATA UNIT (-1)

DELETE DATA/
EXIT FUNCTION

Technician menu - Summary



Technician menu - Summary



STATISTICS

Delete data by:
Selections
Bands
Discounts=
Failures
Coin mechanism data

Delete all data

RELATIVE STATISTICS

Display sales by single selection for each time band and total

Display total sales by single selection

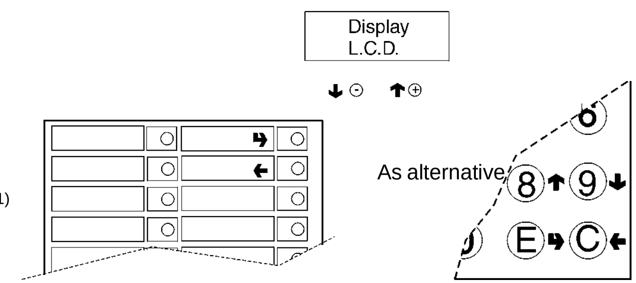
Display total complete sales in normal operation and filler menu mode

NEXT FUNCTION/ INCREASE DATA UNIT (+1)

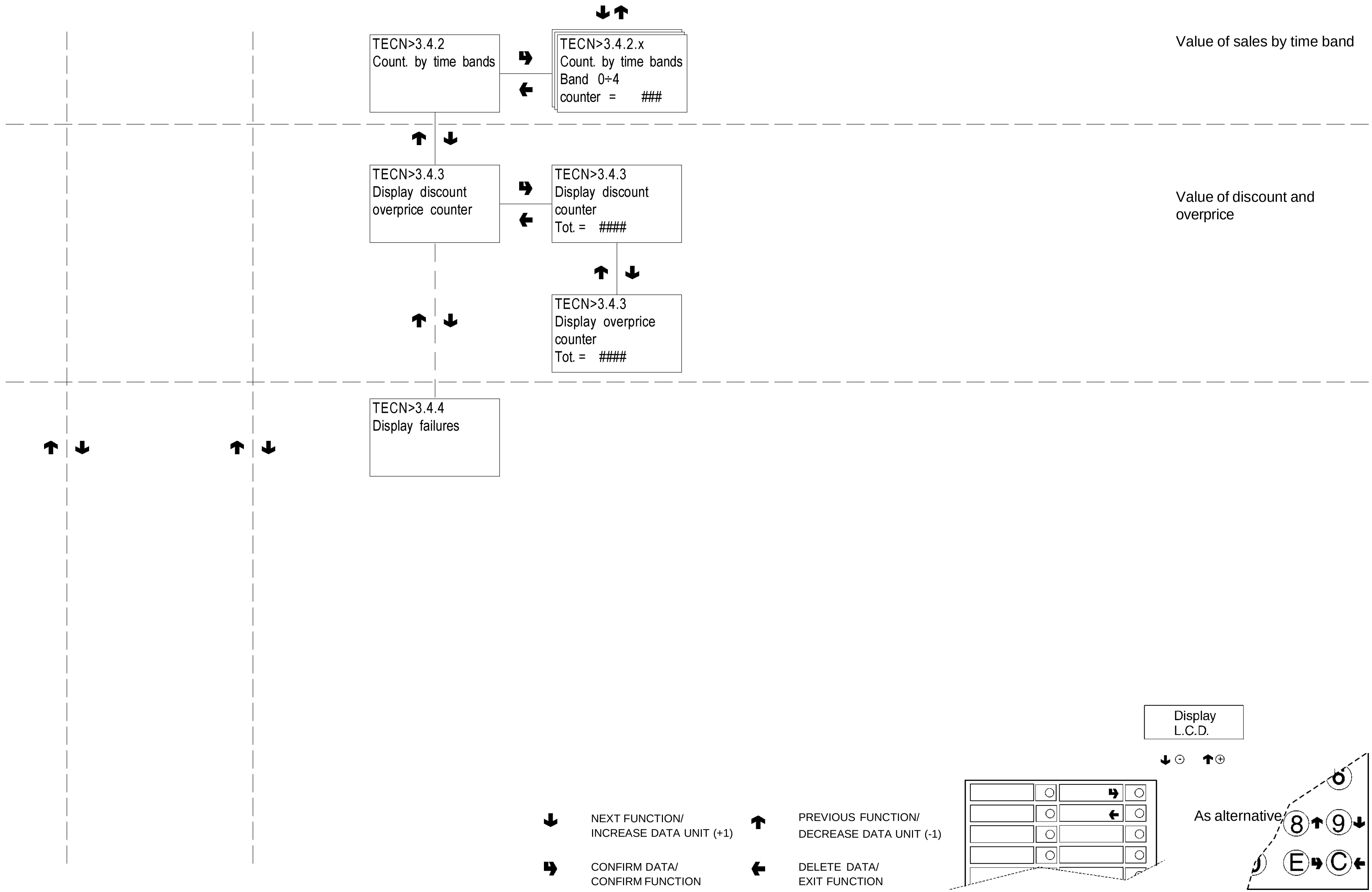
PREVIOUS FUNCTION/ DECREASE DATA UNIT (-1)

CONFIRM DATA/ CONFIRM FUNCTION

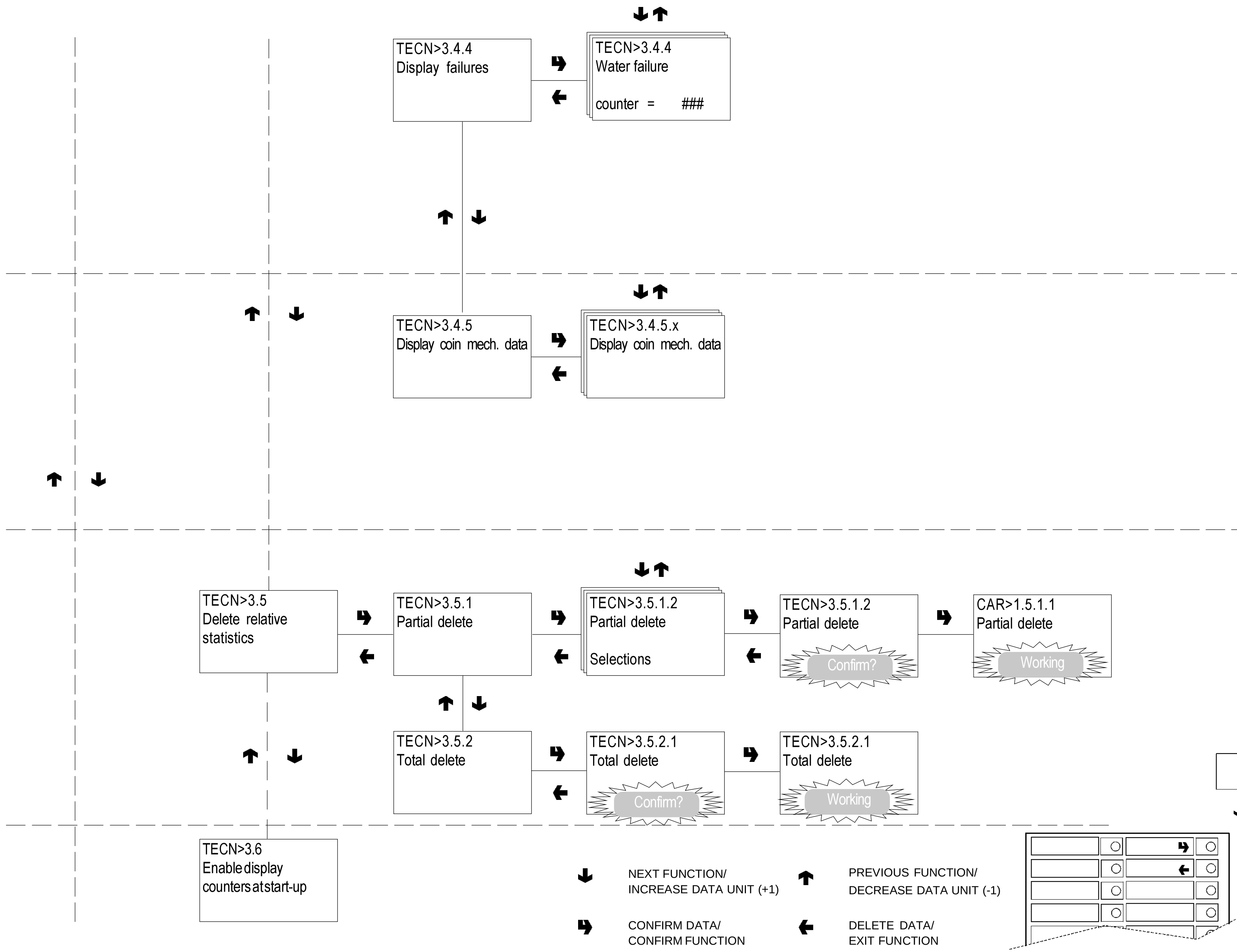
DELETE DATA/ EXIT FUNCTION



Technician menu - Summary



Technician menu - Summary



RELATIVE STATISTICS

LIST OF FAILURES
Water failure
Instant boiler
Espresso boiler 1
Mobile spouts
Cup failure
Coffee unit 1
Coffee failure 1
Coffee release
Volumetric counter 1
Liquid waste full
Air-break failure
Coin mechanism
RAM data

COIN MECHANISM DATA (according to the protocol used)

Validators and Executive
Cashed and sold

BDV Audit

MDB Audit

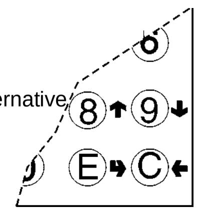
RELATIVE STATISTICS

Delete data by:
Selections
Discount/overprice
Failures
Coin mechanism data

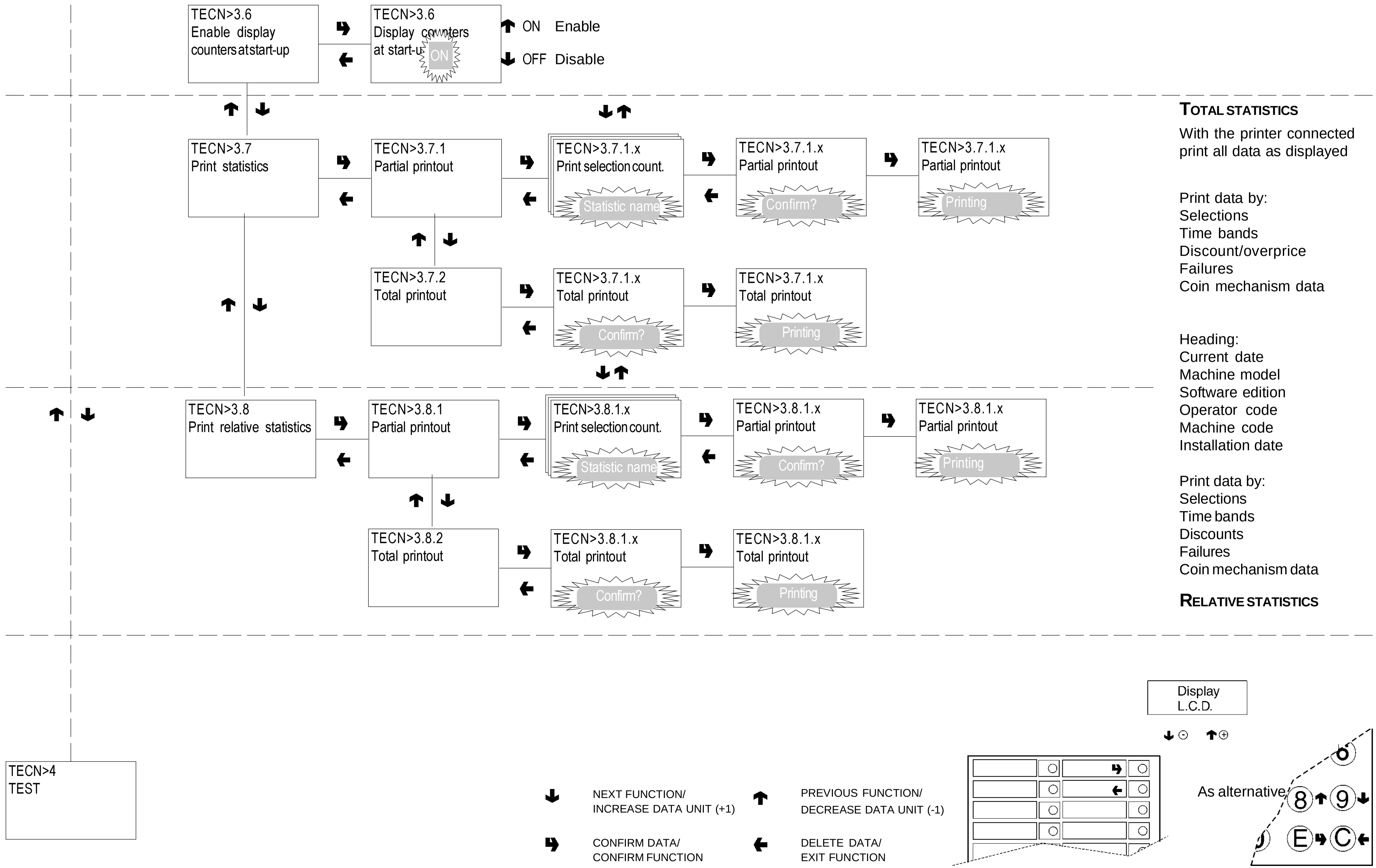
Delete all data

Display L.C.D.

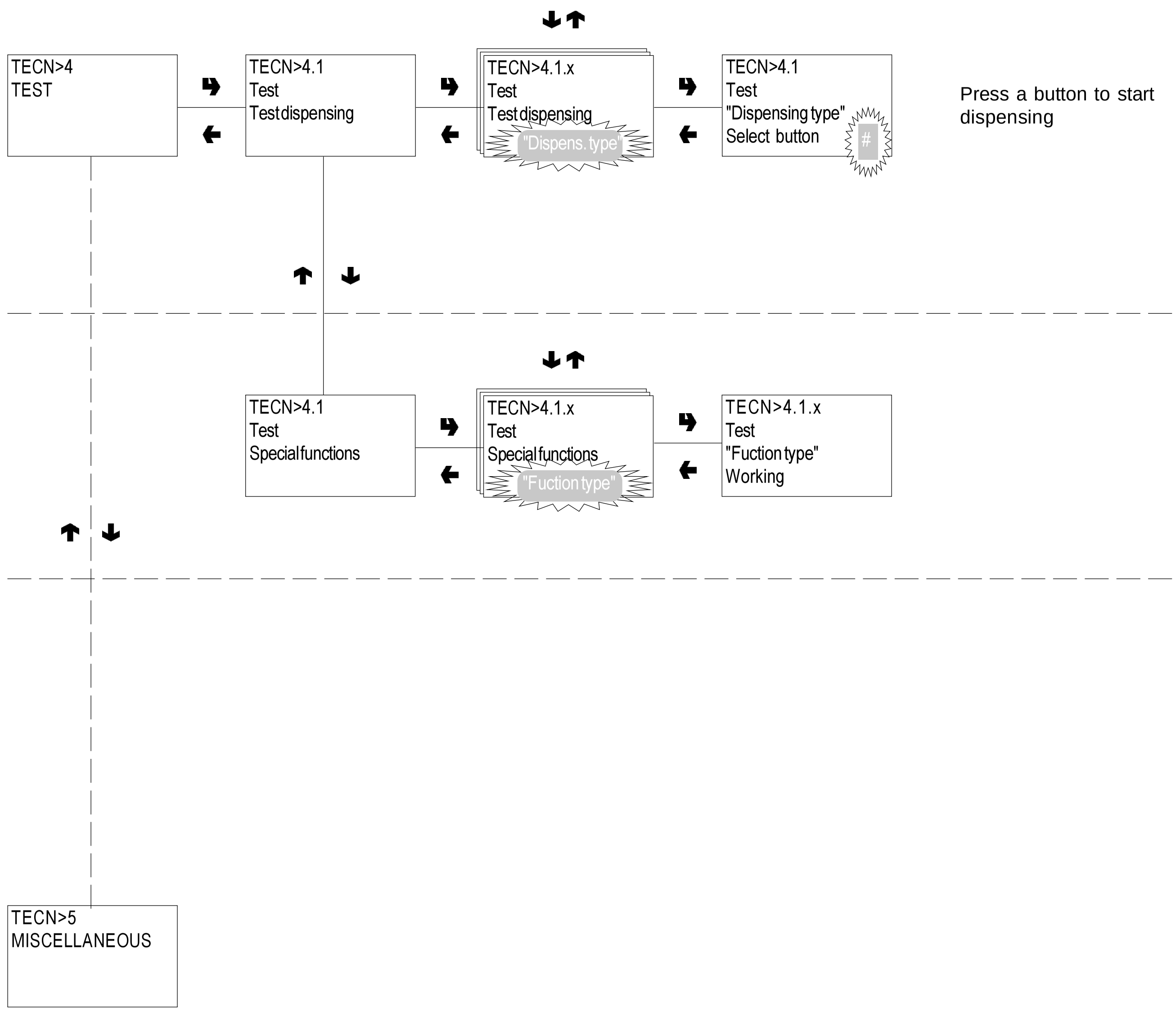
As alternative



Technician menu - Summary



Technician menu - Summary

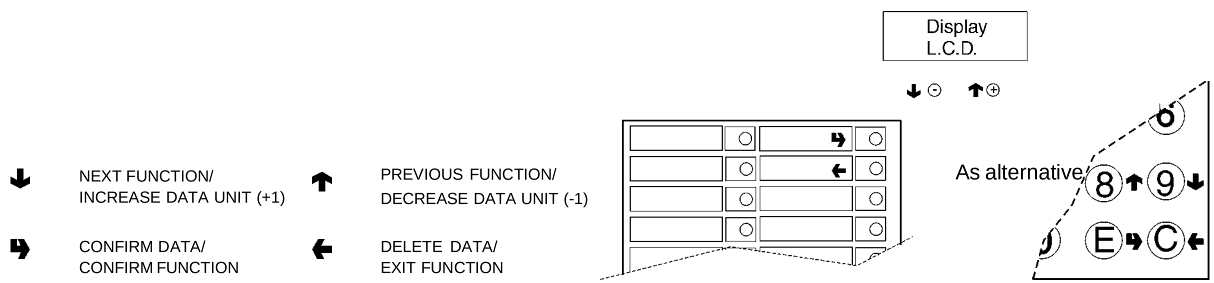


Dispensing types

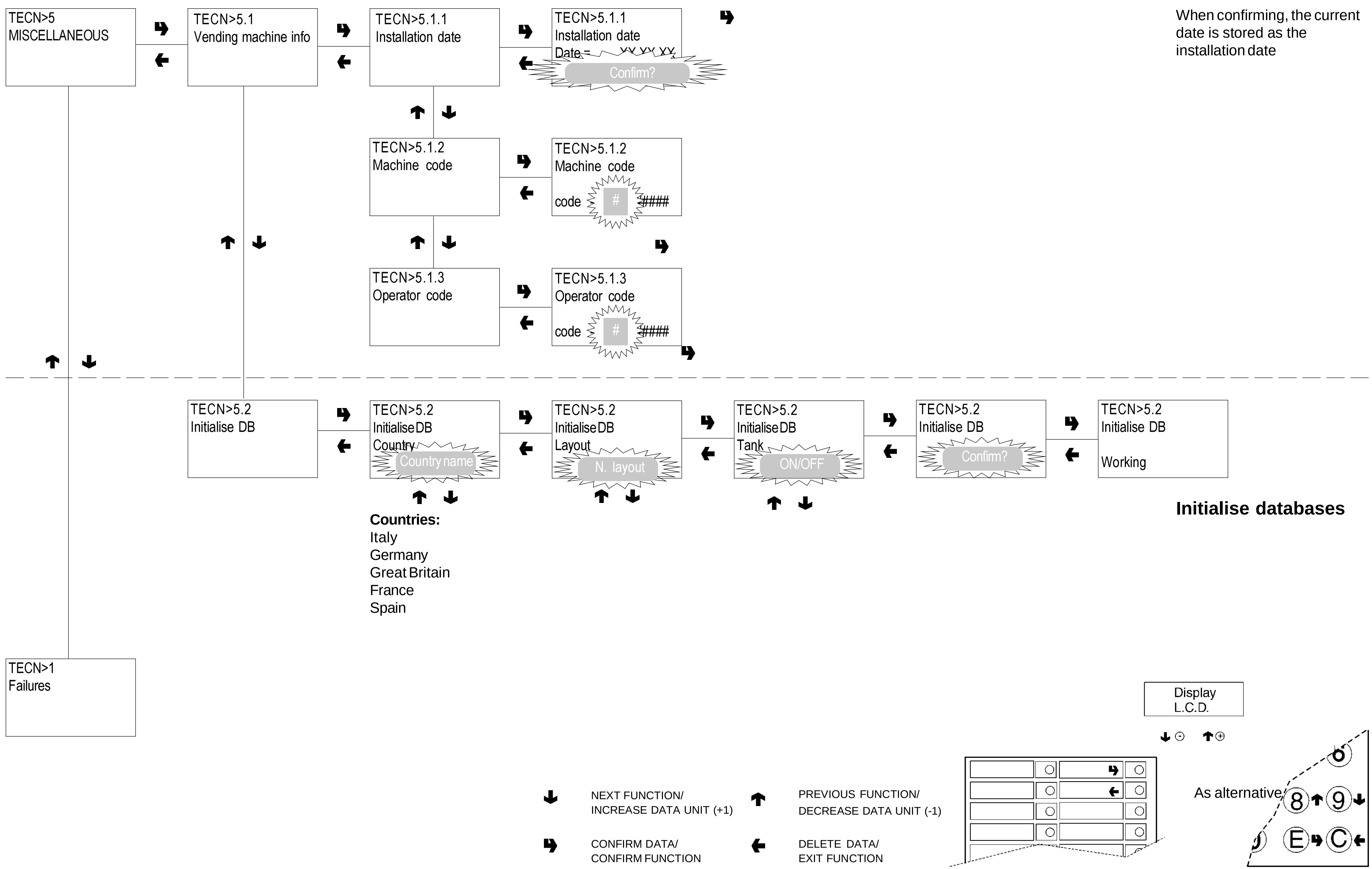
Complete selection
Water only
Powder only
Without accessories
Accessories only

Special functions

Coffee unit rotation
Coffee dose release
Boiler emptying
Manual installation

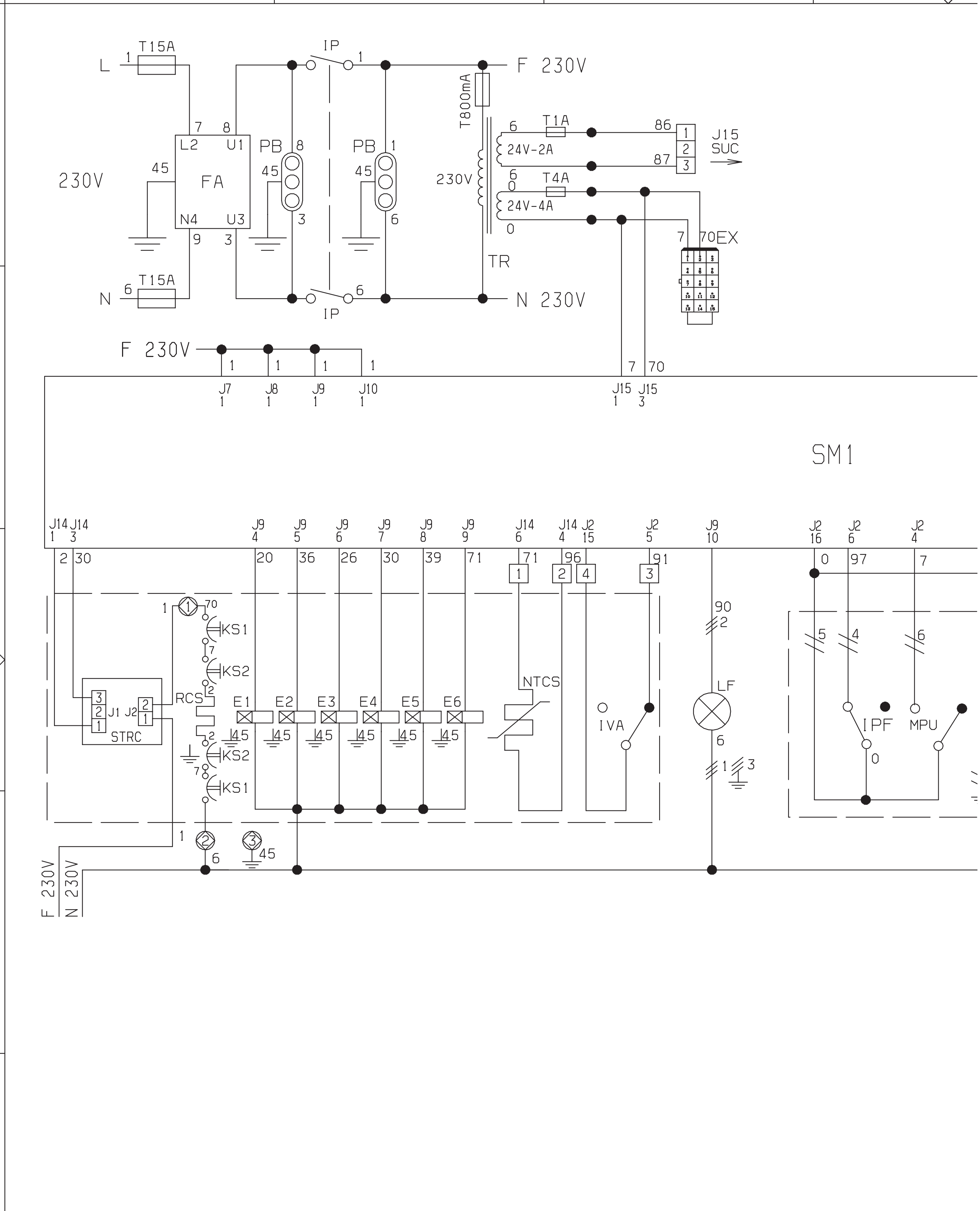


Technician menu - Summary



WIRING DIAGRAM LEGEND

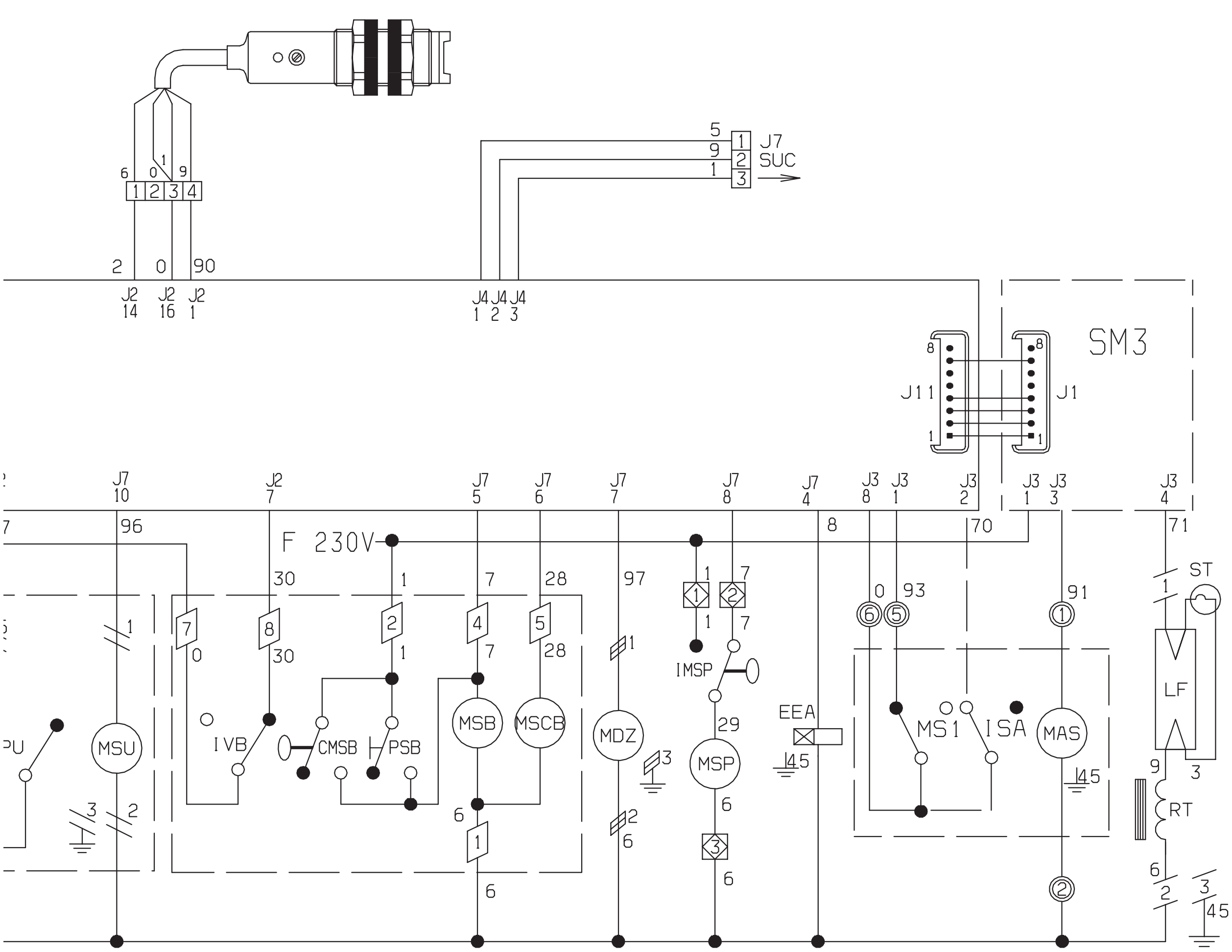
INITIALS	DESCRIPTION	INITIALS	DESCRIPTION
CM1	COFFEE UNIT MOTOR CAM	MF1-..	WHIPPER MOTORS
CMF	FRESH BREW MOTOR CAM	MFB	FRESH-BREW MOTOR
CMPF	FRESH BREW UNIT PISTON MICROSWITC	MPF	PRESH BREW PISTON MOTOR
CMSB	CUP RELEASE MOTOR CAM	MPU	SPOUT POSITIONING MICROSWITCH
CV	VOLUMETRIC COUNTER	MS1	DISP COMPT FLAP MICROSWITCH
E1-...	INSTANT SOLENOID VALVE	MSB	CUP RELEASE MOTOR
EA	HOT WATER ELECTROVALVE	MSCB	CUP CONTAINER SHIFT MOTOR
EEA	WATER INLET SOLENOID VALVE	MSP	STIRRER RELEASE MOTOR
ESC	COFFEE RELEASE MAGNET	MSU	SPOUT MOVING MOTOR
EX	EXECUTIVE COIN MECH CONNECTOR	NTC	TEMPERATURE PROBE
FA	RADIO INTERFERENCE SUPPRESS	NTCS	INSTANT BOILER TEMPERATURE PROBE
FREE	FREE VENDING SWITCH	PB	POWER SUPPLY SOCKET
ID	COFFEE DOSE SWITCH	PIP	PROGRAMMING BUTTON
IMSP	STIRRER RELEASE MICRO-SWITCH	PL	WASH CYCLE BUTTON
IP	DOOR SWITCH	PM	PUMP
IPF	WASTE CONTAINER OVERFLOW SWITCH	PSB	CUP RELEASE BUTTON
ISA	OPEN DISP COMPT FLAP SWITCH	RCC	COFFEE BOILER HEATING ELEMENT
IVA	EMPTY BOILER MICRO-SWITCH	RCS	INSTANT BOILER HEATING ELEMENT
IVB	EMPTY CUP DISPENSER MICRO SWITCH	RG	UNIT HEATING ELEMENT
JUG	JUG FACILITIES SWITCH	RS232	SERIAL PORT
KC1-..	COFFEE BOILER CUTOUT	RT	BALLAST
KS1-..	SAFETY CUTOUT	SM1	CONTROL BOARD
LCD	LIQUID CRYSTAL DISPLAY	SP	PUSH-BUTTON BOARD
LF	LAMP	ST	STARTER
M	COFFEE UNIT MOTOR	STRC	BOILER HEATING TRIAC BOARD
MAC	GRINDER	SUC	C.P.U. BOARD
MAS	SLIDER OPENING MOTOR	TR	TRANSFORMER
MD1-..	INGREDIENT MOTOR - INSTANT	TX....	DELAYED FUSE (X=COURRENT)
MDB	CONNECTOR FOR MDB COIN MECHANI	TZ	CUP SENSOR
MDFB	INGREDIENT MOTOR - FRESH BREW	VENT	FAN
MDZ	INGREDIENT MOTOR - SUGAR		



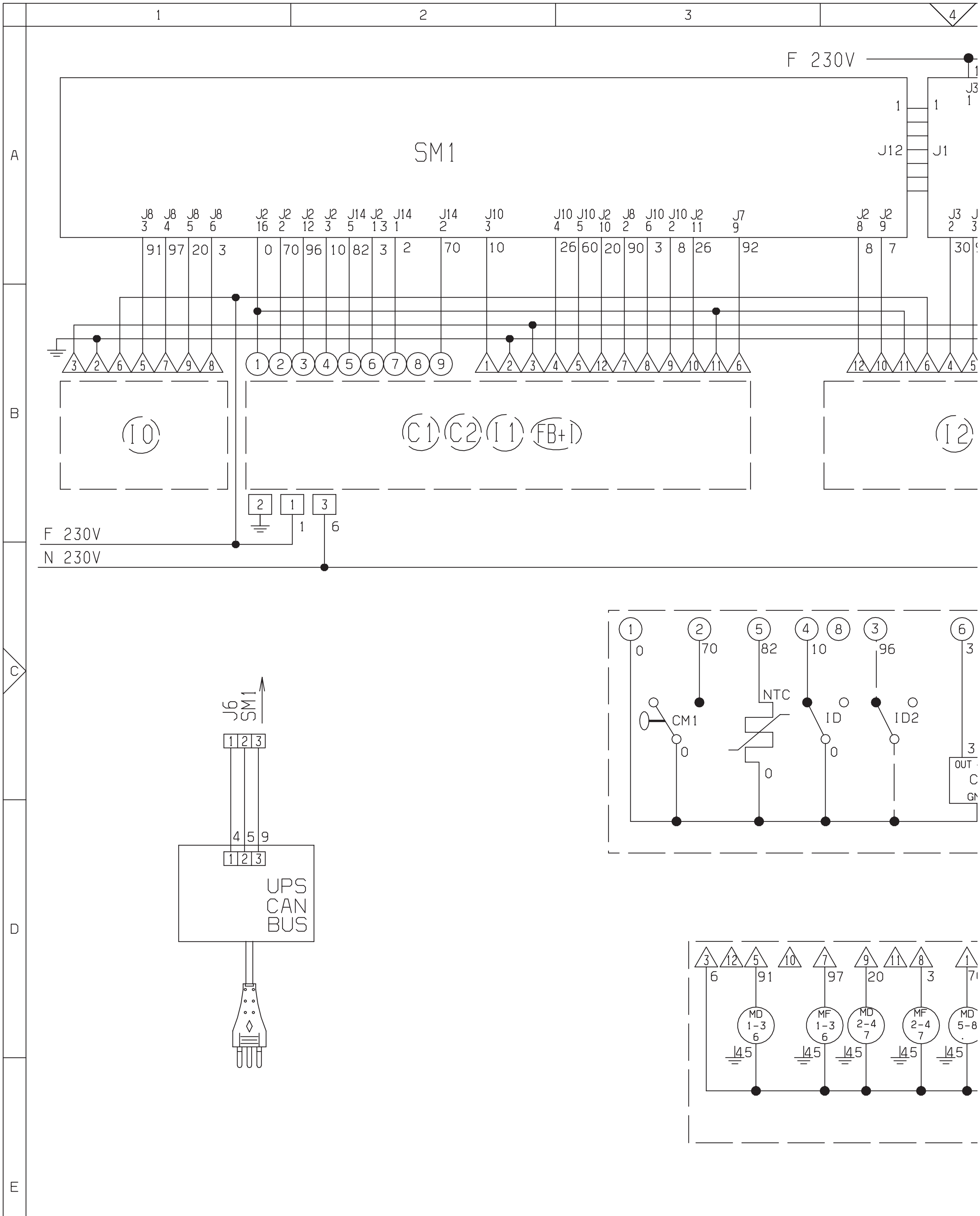
NECTA VENDING SOLUTIONS SpA
SI RISERVA A TERMINI DI LEGGE
LA PROPRIETA' DEL PRESENTE
DISEGNO CON DIVIETO DI
RIPRODURLO O DIVULGARLO SENZA
SUA PREVIA AUTORIZZAZIONE

0	NERO	BLACK	NOIR	SCHWARZ	NEGRO
1	MARRONE	BROWN	MARRON	BRAUN	MARRON
2	ROSSO	RED	ROUGE	ROT	ROJO
3	ARANCIO	ORANGE	ORANGE	ORANGE	NARANJA
4	GIALLO	YELLOW	JAUNE	GELB	AMARILLO
5	VERDE	GREEN	VERT	GRUEN	VERDE
6	BLU AZZURRO	BLUE LIGHT BLUE	BLEU BLEU CIEL	BLAU HELLBLAU	AZUL OSCURO AZUL CLARO
7	ROSA VIOLA	PINK VIOLET	ROSE ROSE	ROSA LILLA	ROSA ROSA
8	GRIGIO	GREY	GRIS	GRAU	GRIS
9	BIANCO	WHITE	BLANC	WEISS	BLANCO

Sx37600



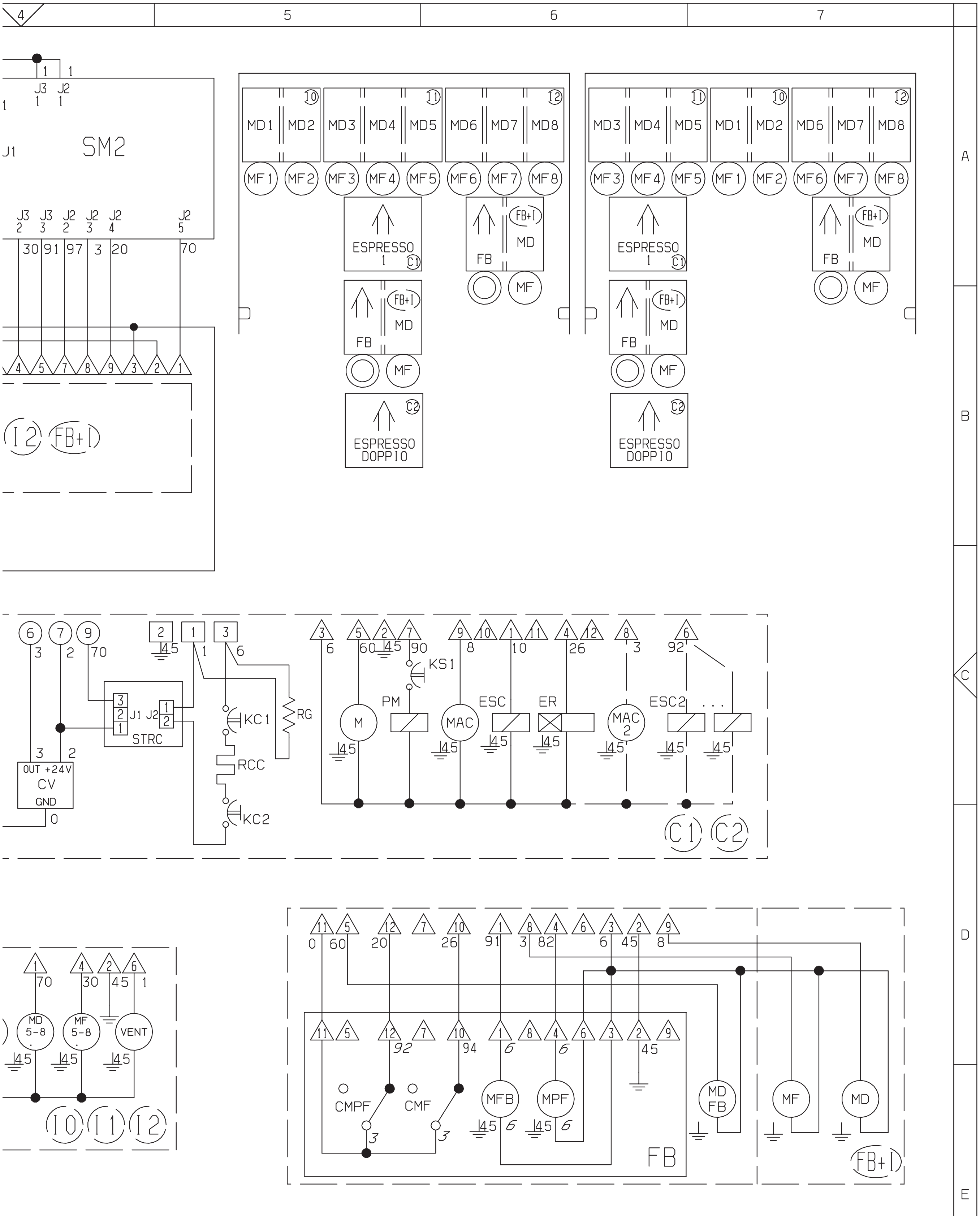
8 GRIS / 9 BLANCO	**NECTA VENDING SOLUTIONS SpA** A company of **N&W GLOBAL VENDING GROUP**	MODELLO: Astro	GRUPPO: SCHEMA ELETTRICO FUNZIONALE ALIMENTAZIONE	DATA: 23-07-01	FOGLIO: 1/1	DISEGNATO: BONACINA
				LEGENDA: .	CODICE: 608537600	CONTROLLATO: MONGUZZI



0	NERO	BLACK	NOIR	SCHWARZ	NEGRO
1	MARRONE	BROWN	MARRON	BRAUN	MARRON
2	ROSSO	RED	ROUGE	ROT	ROJO
3	ARANCIO	ORANGE	ORANGE	ORANGE	NARANJA
4	GIALLO	YELLOW	JAUNE	GELB	AMARILLO
5	VERDE	GREEN	VERT	GRUEN	VERDE
6	BLU AZZURRO	BLUE LIGHT BLUE	BLEU BLEU CIEL	BLAU HELLBLAU	OSCURO AZUL CLARO
7	ROSA VIOLA	PINK VIOLET	ROSE ROSE	ROSA LILLA	ROSA ROSA
8	GRIGIO	GREY	GRIS	GRAU	GRIS
9	BIANCO	WHITE	BLANC	WEISS	BLANCO

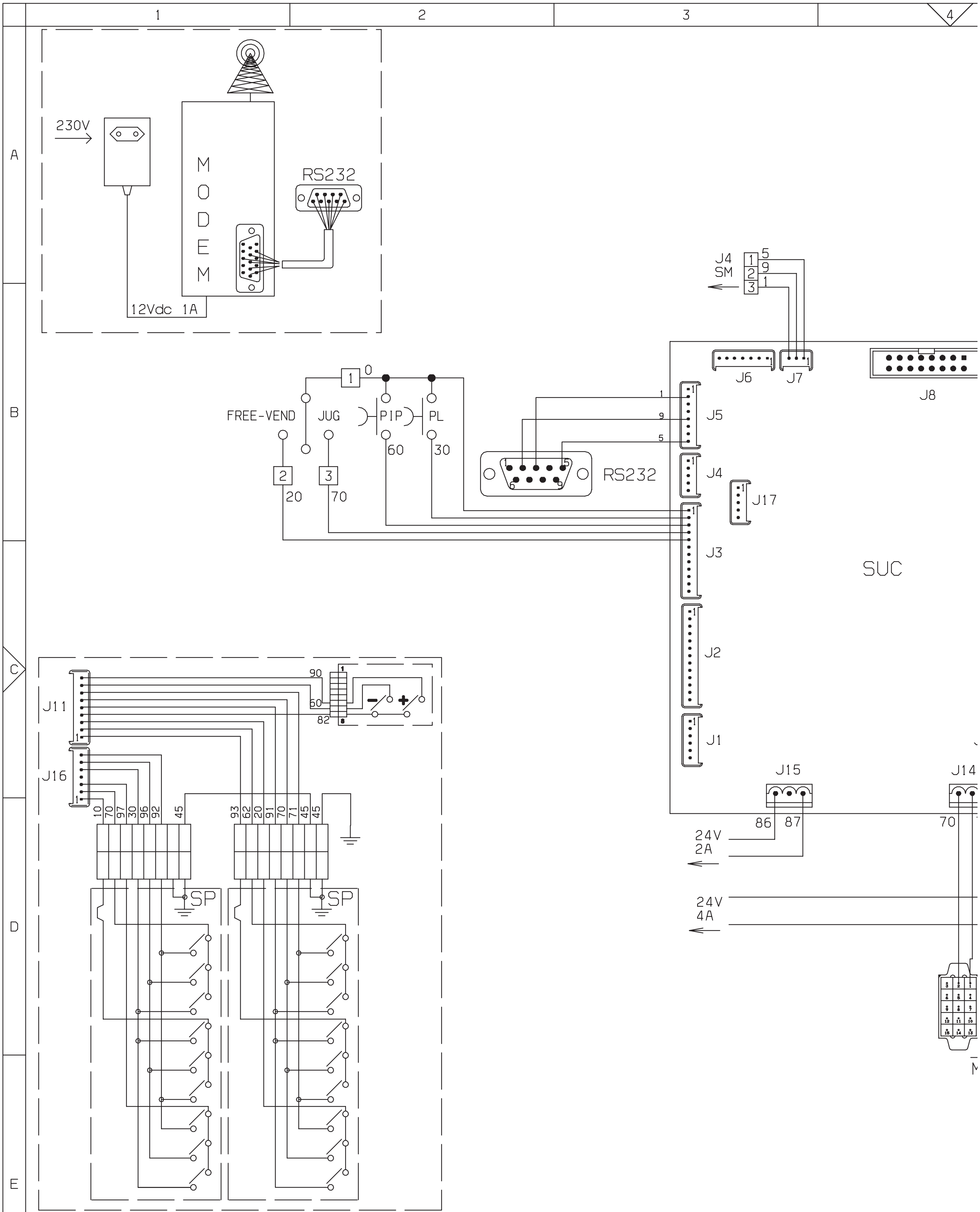
Sx37700 1 2 3 4

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NECTA VENDING SOLUTIONS SpA A company of N&W GLOBAL VENDING GROUP	MODELLO Astro	GRUPPO SCHEMA ELETTRICO FUNZIONALE MACCHINA	DATA 23-07-01	FOGLIO 1/1	DISEGNATO BONACINA	CONTROLLATO MONGUZZI
			LEGENDA .	CODICE 608537700		

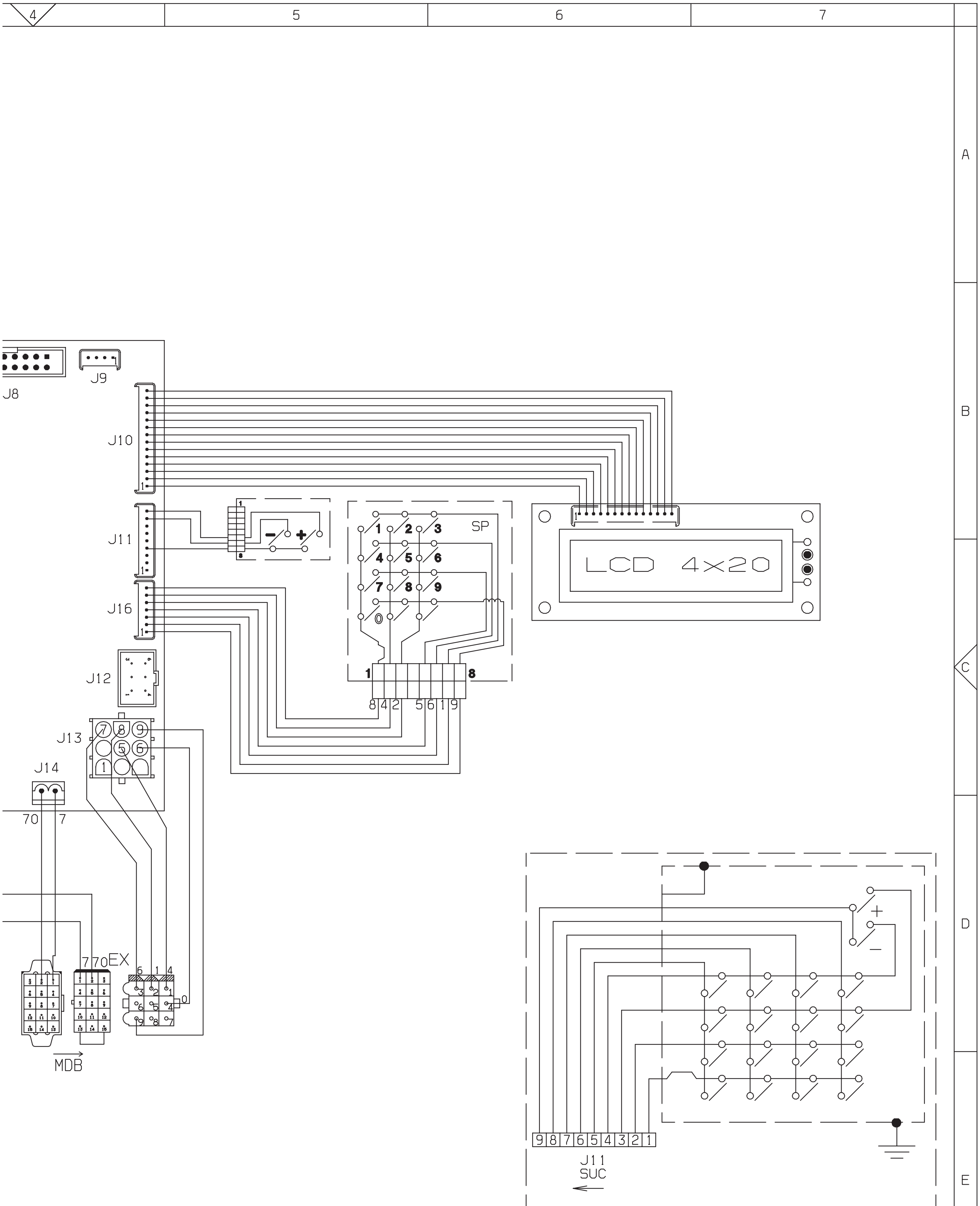
9 BLANCO



0	NERO	BLACK	NOIR	SCHWARZ	NEGRO
1	MARRONE	BROWN	MARRON	BRAUN	MARRON
2	ROSSO	RED	ROUGE	ROT	ROJO
3	ARANCIO	ORANGE	ORANGE	ORANGE	NARANJA
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6	BLU AZZURRO	BLUE LIGHT BLUE	BLEU BLEU CIEL	BLAU HELLBLAU	OSCURO AZUL CLARO
7	ROSA VIOLA	PINK VIOLET	ROSE ROSE	ROSA LILLA	ROSA ROSA
8	GRIGIO	GREY	GRIS	GRAU	GRIS
9	BIANCO	WHITE	BLANC	WEISS	BLANCO

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8	GRIS	
9	BLANCO	

NECTA VENDING SOLUTIONS SpA
A company of
N&W GLOBAL VENDING GROUP

MODELLO	GRUPPO	DATA	FOGLIO	DISEGNATO	CONTROLLATO
Astro	SCHEMA ELETTRICO FUNZIONALE PORTA	24-07-01	1/1	BONACINA	MONGUZZI
		LEGENDA	CODICE		
		.	608537800		

4 5 6 7

EDITION 02 10 CODE: H 206U 00

NECTA
VENDING SOLUTIONS SpA
A company of
N&W GLOBAL VENDING GROUP

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